Multiple-Purpose Project
Little Blue River Basin
East Fork Little Blue River
Missouri

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Blue Springs Lake

Operation and Maintenance Manual

Appendix IV
Volume Two

Construction Foundation Repo

US Army Corps
of Engineers

Operation and Maintenance Manual

Appendix IV
Volume Two

Construction Foundation Report

US Army Corps of Engineers
Kansas City District

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REPORT DOCUMENTATION PAGE

READ INSTRUCTIONS BEFORE COMPLETING FORM

1. REPORT NUMBER: APPENDIX IV to the Blue Springs Lake, Missouri Operation & Maintenance Manual	2. GOVT ACCESSION NO.
3. RECIPIENT'S CATALOG NUMBER	
4. TITLE (and Subtitle): MULTIPLE-PURPOSE PROJECT; LITTLE BLUE RIVER BASIN; EAST FORK LITTLE BLUE RIVER, MO; BLUE SPRINGS LAKE, OPERATION AND MAINTENANCE MANUAL; APPENDIX IV, VOLUMES ONE & TWO CONSTRUCTION FOUNDATION REPORT	5. TYPE OF REPORT & PERIOD COVERED: 29 Aug 82 to 15 Sep 88
	6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s): Mr. Clyde W. Huffman - Project Geologist; Mr. William F. Lowe - Project Geologist	8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS: Geology Section (CEMRK-ED-GG), Foundation and Materials Branch (CEMRK-ED-G), Kansas City District, US Army Corps of Engineers, 601 E. 12th Street; Kansas City, MO 64106-2896	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS: PB-2B and ER 1110-1-1801 Change 2 dated 1 Apr 83
11. CONTROLLING OFFICE NAME AND ADDRESS: O&M Manuals Unit, Spec. Section (CEMRK-ED-DS), Design Branch (CEMRK-ED-D) and CAD Branch (CEMRK-ED-C), Kansas City District, US Army Corps of Engineers, 601 E. 12th Street, Kansas City, MO 64106-2896	12. REPORT DATE: September 1990
	13. NUMBER OF PAGES: Volume 2 = 91
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)	15. SECURITY CLASS. (of this report): UNCLASSIFIED
	15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Distribution in Accordance with
ER 1110-1-1801, paragraph 10, change 2 dated 1 April 1983
Distribution Statement "A"

Note: This report to be complete, requires both Volume One and Volume Two.

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

Control Determination: This report conforms to the intent of the exempt report catagories as set forth in AR 335-15 and under the paragraph 7-2y of the AR.

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Volume Two (of 2 Volumes)
Construction Foundation Report

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

The purpose of this report is to provide a record of foundation conditions encountered during construction and methods used to adapt to these conditions. This information is a part of the permanent collection of project engineering data required by ER 1110-1-1801, change 2, dated 1 April 1983.

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MULTIPLE-PURPOSE PROJECT
LITTLE BLUE RIVER BASIN
EAST FORK, LITTLE BLUE RIVER,
MISSOURI

BLUE SPRINGS LAKE

OPERATION AND MAINTENANCE MANUAL

APPENDIX IV
VOLUME TWO
CONSTRUCTION FOUNDATION REPORT

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APPENDIX IV

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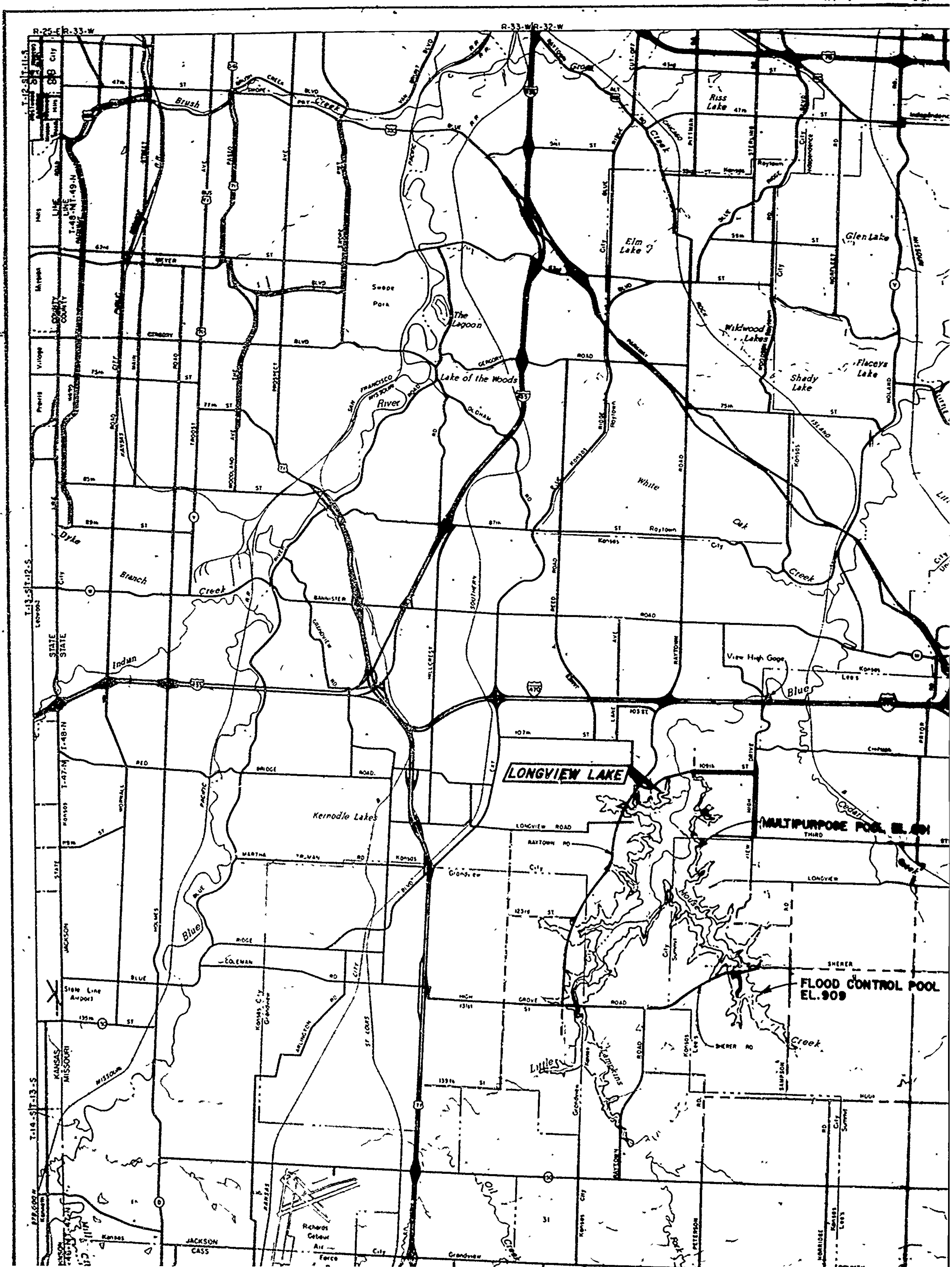
LONGVIEW LAKE
MULTIPURPOSE POOL
FLOOD CONTROL POOL
EL. 909
Swope Park
The Lagoon
Lake of the Woods
Elm Lake
Riss Lake
Glen Lake
Wildwood Lakes
Shady Lake
Fleceys Lake
Kernodle Lakes
Blue River
Brush Creek
Indian Creek
Dyke Branch
White Oak Creek
Little Blue
Richards Gebaur Air Force
State Line Airport
KANSAS
MISSOURI
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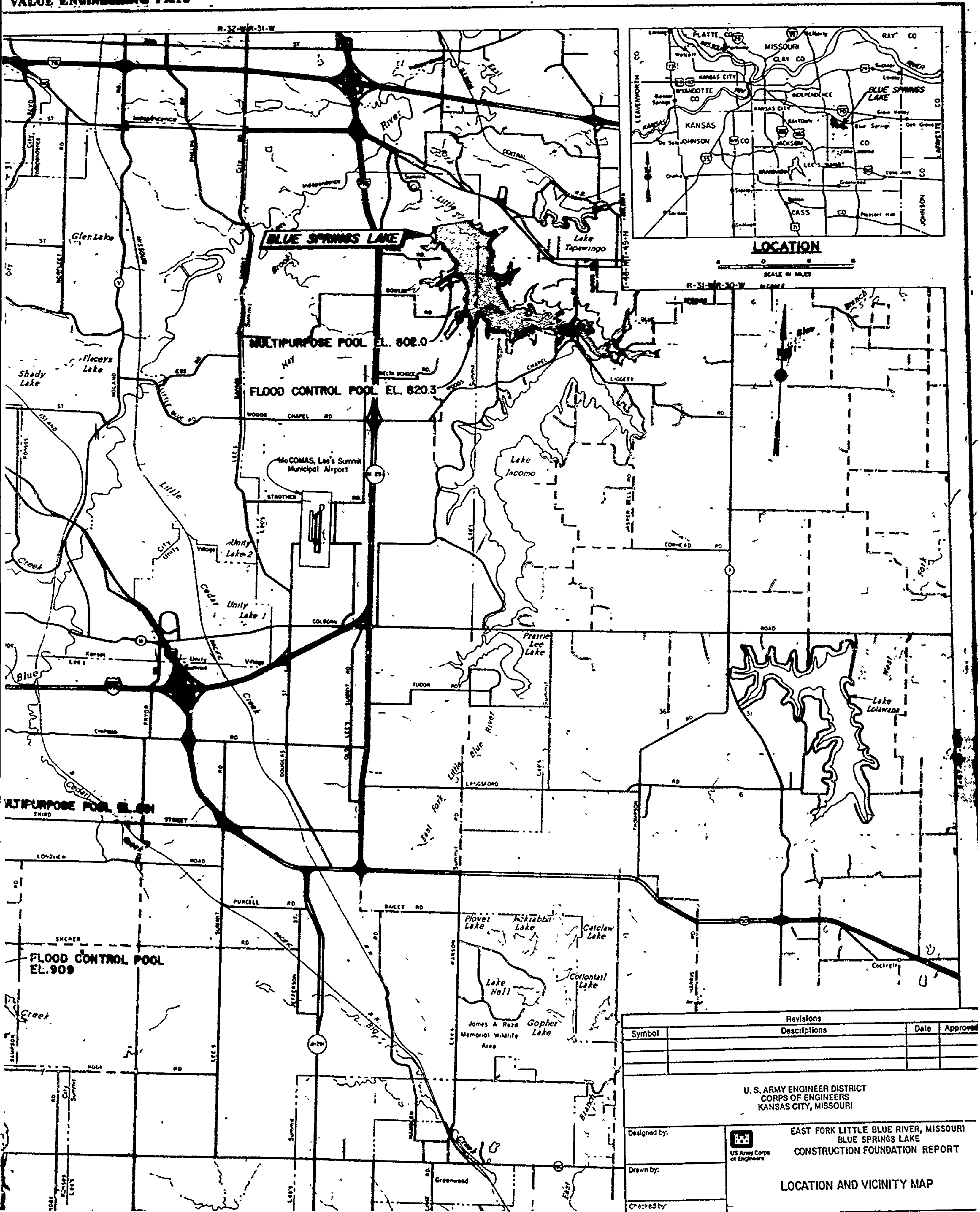
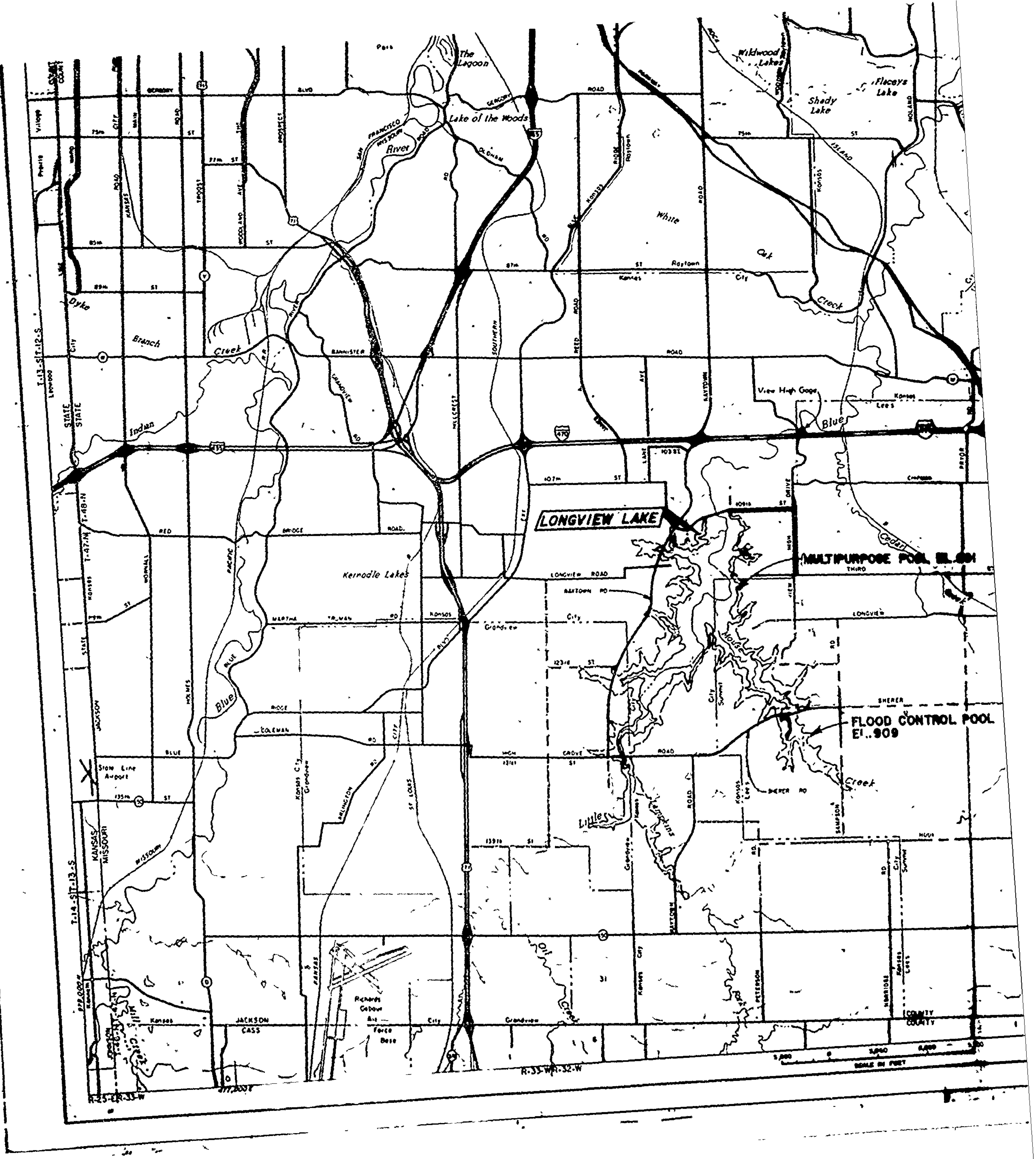
VALUE ENGINEERING PAYS





LONGVIEW LAKE
MULTIPURPOSE POOL EL.891
FLOOD CONTROL POOL
El..909
The Lagoon
Lake of the Woods
Wildwood Lakes
Fleceys Lake
Shady Lake
White
Oak
Creek
Dyke
Branch
Creek
Indian
Blue
Kernodle Lakes
State Line Airport
KANSAS
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JACKSON
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Richards Gebaur Air Force Base
Little
Creek
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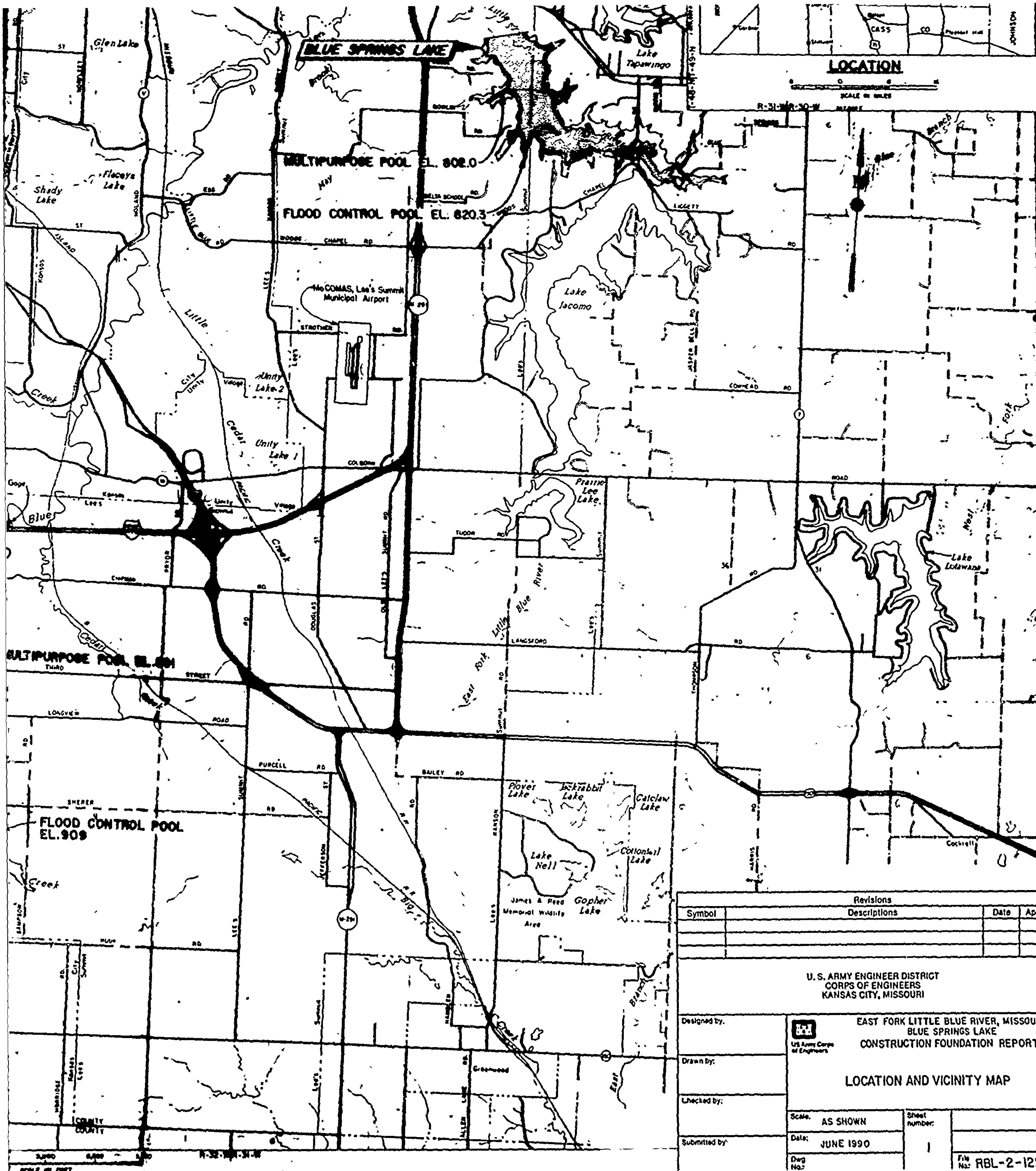


Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

LOCATION AND VICINITY MAP

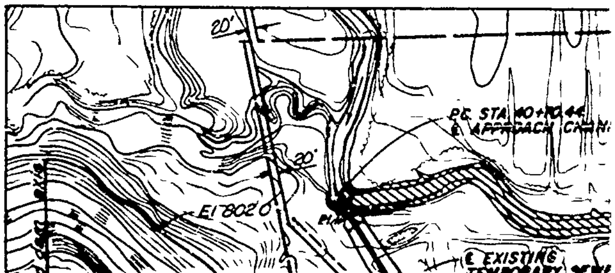
Designed by:
Drawn by:
Checked by:
Submitted by:

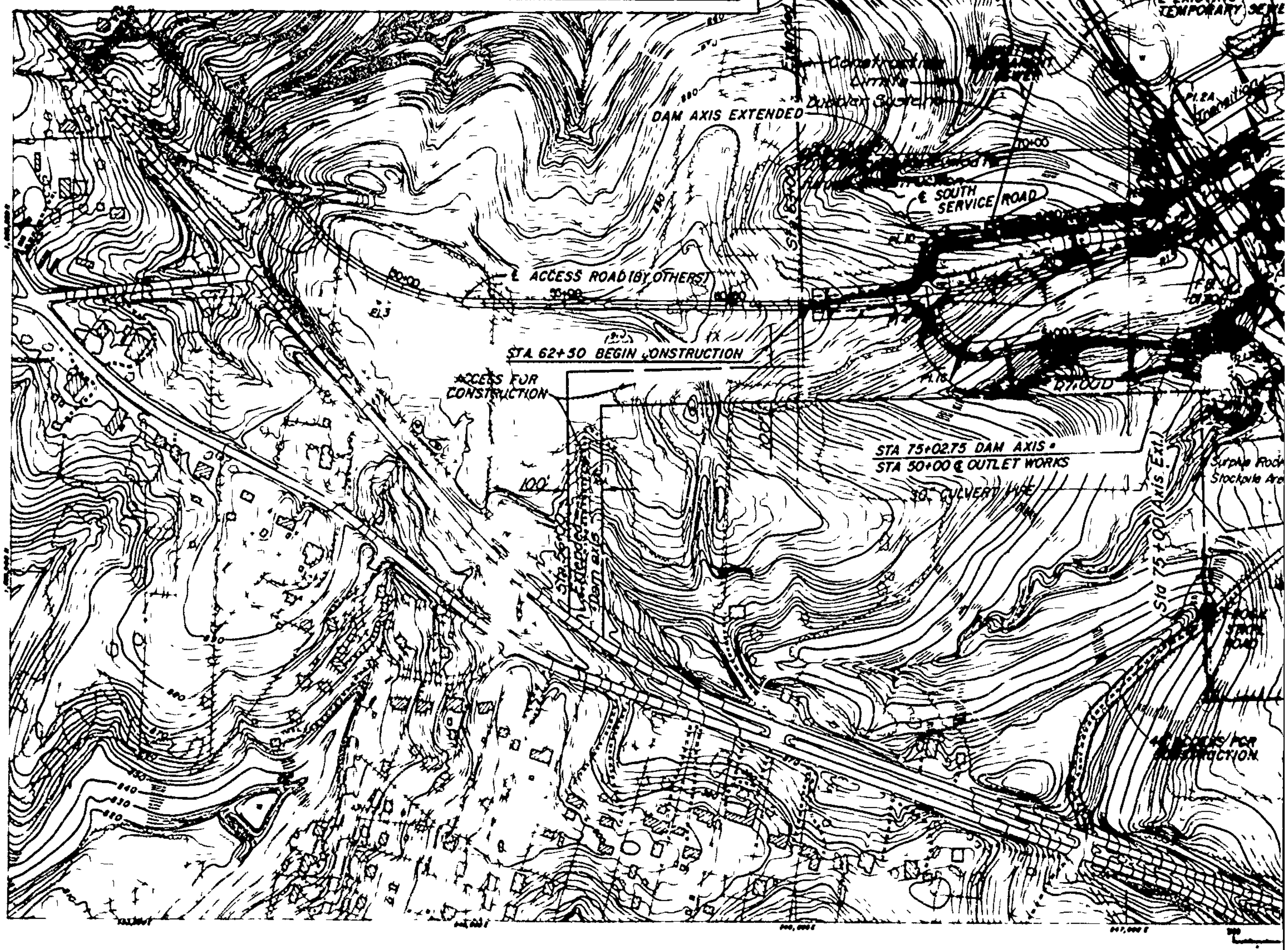
Scale: AS SHOWN
Date: JUNE 1990
Dwg No.:
Sheet number: 1
File No.: RBL-2-1221

PLATE NO.

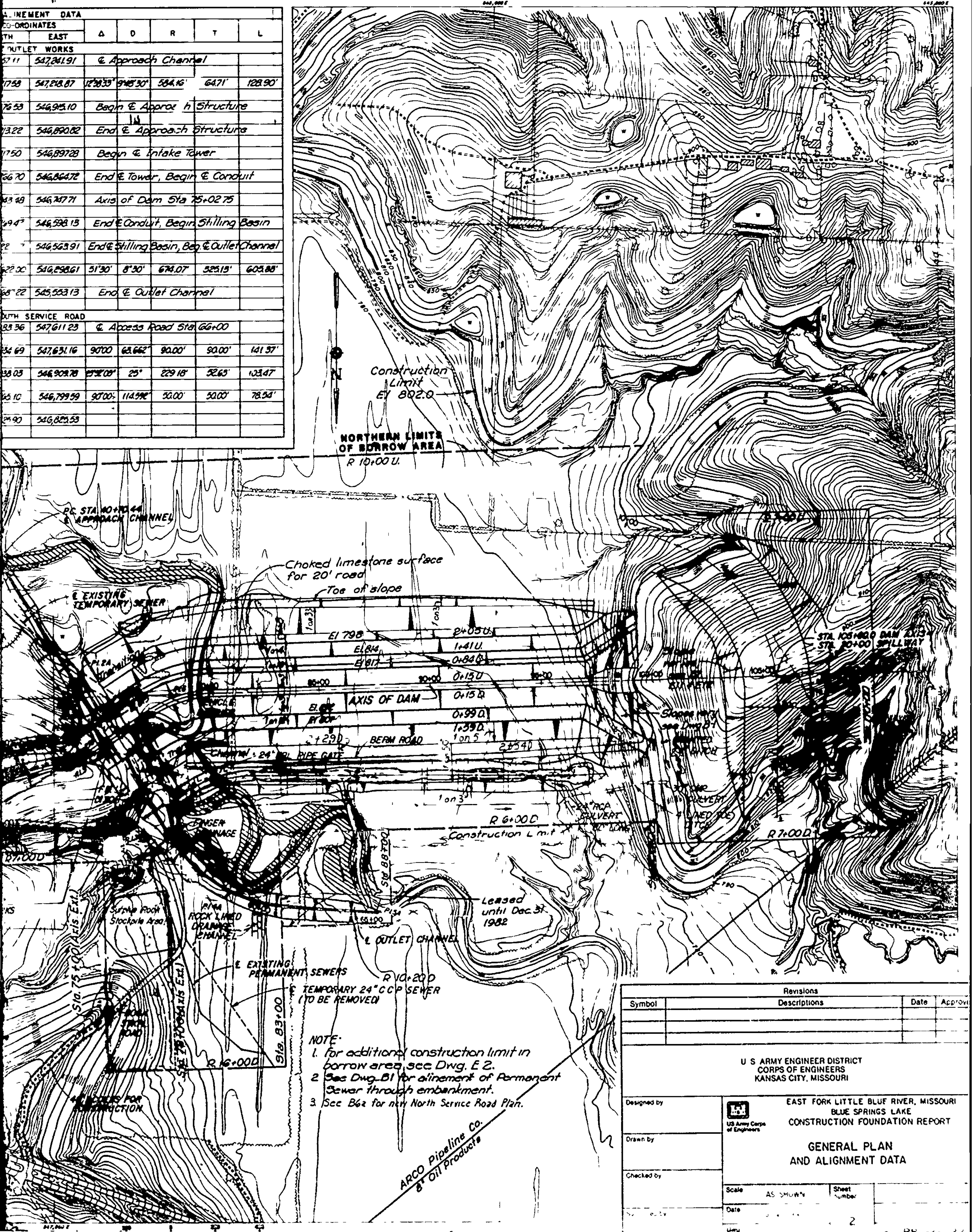
ALINEMENT DATA											
STATION	POT	PI	BEARING	DISTANCE	CO-ORDINATES NORTH	CO-ORDINATES EAST	Δ	D	R	T	L
ACCESS ROAD AND DAM ALIGNMENT											
57+09.42		1			1,037,510.10	550,154.30	0°	-	-	-	-
			S48°28'51"W	163.21'							
38+72.63		2			1,037,401.03	550,012.89	88°41'09"	-	-	-	-
			N42°15'00"W	1,102.31'							
46+58.81 / 52+55.12	PC / PT	3			1,038,217.20	549,271.53	47°45'	8°	716.80	317.00'	596.88'
			N90°00'W	1,622.18'							
60+91.80 / 70+25.33	PC / PT	4			1,038,217.20	547,649.45	14°00'	1°30'	3,819.72'	469.00'	933.33'
			S76°00'W	807.25'							
76+53.37 / 78+70.04	PC / PT	5			1,038,021.91	545,866.20	19°30'	9°	636.62'	109.39'	216.67'
			S56°30'W	503.66'							
77+00.02 / 80+20.02	PC / PT	6			1,037,743.92	546,446.20	32°00'	10°	572.96'	164.23'	320.00'
			S88°30'W	2,704.31'							
105+60.04		7			1,037,673.13	543,742.82	€ Spillway Sta 20+00				
SPILLWAY											
10+00	POT				1,037,086.23	544,420.27					
			N.69°30'W	250.00'							
12+50	PC.				1,037,115.78	544,186.11					
			N69°30'W	488.21'							
		1B			1,037,284.75	543,728.81	70°30'	8.294°	690.80'	488.21'	850.00'
			N.1°00'E	488.21'							
21+00	PT				1,037,772.89	543,737.33					
			N.1°00'E	500.00'							
26+00					1,038,272.81	543,746.06					
20+00	POC				1,037,673.13	543,742.82	€ Dam Sta 105+60.04				
			N50°58'49"W	99.91'							
21+00	PT.				1,037,772.89	543,737.33					
NORTH SERVICE ROAD											
0+00	POT				1,038,183.36	547,611.23	€ Access Road Sta 66+00				
			N73°37'55"W	219.76'							
0+51.22 / 3+04.82	PC / PT.	1C			1,038,401.16	547,582.05	96°22'00"	35°	150.76'	168.54'	253.60'
			S75°00'W	363.72'							
[illegible] / 6+38.54	PC / PT.	2C			1,038,313.18	547,229.13	16°30'	6°	354.93'	138.46'	275.00'
			N87°30'W	560.73'							
9+34.01 / 11+28.52	PC / PRC	3C			1,038,337.64	546,668.94	84°20'	49°31'	115.71'	104.80'	170.31'
			S.6°10'W.	154.16'							
11+28.52 / 12+17.13	PRC / PRC	4C			1,038,183.05	546,647.04	48°20'	52°04'30"	110.03'	49.37'	92.81'
			S56°30'W	129.36'							
12+17.13 / [illegible]	PRC / PT	5C			1,038,113.64	546,539.15	90°	71°37'11"	80.00'	80.00	125.66'
			EQUATION								
13+[illegible]	PT										
			N33°30'W	140.00'							
14+00.98	PT.	6C	—		1,038,290.58	546,481.88					
			S58°30'W	250.28'							
15+00.78 / 17+92.12	PC / PT.	7C			1,038,092.84	546,253.17	33°30'	11°27'33"	500.00'	150.48	292.34
			N90°00'W	1,560.95'							
33+03.83					1,038,092.25	544,592.18					

ALINEMENT DATA								
STATION	POT	PI.	BEARING	DISTANCE	CO-ORDINATES NORTH	CO-ORDINATES EAST	Δ	D
OUTLET WORKS								
40+70.44	PC				1,037,157.11	547,841.91	€ Approach	
			N20°51'27"W	64.71'				
		1A			1,037,217.58	547,218.87	12°38'33"	9°48'30"
			N.33°30'W	550.37'				
46+85	POT				1,037,676.53	546,915.10	Begin € Ap	
			N 33°30'W	44.00'				
47+29		2A			1,037,713.22	546,890.82	End € App	
			N56°30'E	7.75'				
47+29		3A			1,037,717.50	546,897.28	Begin € Tr	
			N33°30'W	59.00'				
47+88	POT				1,037,766.70	546,864.72	End € Tower	
			N 33°30'W	212.00'				
50+00	POT				1,037,943.48	546,747.71	Axis of Dam	
			N 33°30'W	271.00'				
52+71	POT				1,038,169.47	546,598.13	End € Condu	
			N 33°30'W	62.00'				
53+33	POT				1,038,221.17	546,563.91	End € Stilling B	
			N 33°30'W	480.68'				
54+88.55 / 60+94.43	PC / PT	4A			1,038,622.00	546,298.61	51°30'	8°30'
			N 85°00'W	748.35'				
65+17.63		5A			1,038,687.22	545,553.13	End € Outl	
SOUTH SERVICE ROAD								
0+00	POT				1,038,183.36	547,611.23	€ Access R	
			S73°37'55"E.	150.00'				
0+60 / 2+01.37	PC. / PT.	1D			1,038,034.69	547,631.16	90°00'	63.662'
			S62°22'05"W	727.82'				
7+86.56 / 8+90.03	PC. / PT	2D			1,037,938.03	546,909.78	27°52'00"	25°
			S.56°30'W	132.14'				
9+19.54 / 9+98.08	PC / RT	3D			1,037,865.10	546,799.59	90°00'	114.592'
			S.33°30'E	50.00'				
9+98.08	PT				1,037,825.90	546,825.53		





A_INEMENT DATA						
CO-ORDINATES		Δ	D	R	T	L
TH	EAST					
OUTLET WORKS						
57 11	547,241.91	℄ Approach Channel				
17 58	547,218.87	12°38'33"	9°48'30"	584.16'	64.71'	128.90'
76 53	546,915.10	Begin ℄ Approac h Structure				
13.22	546,890.82	End ℄ Approach Structure				
17 50	546,897.28	Begin ℄ Intake Tower				
66 70	546,864.72	End ℄ Tower, Begin ℄ Conduit				
43 48	546,747.71	Axis of Dam Sta 75+02 75				
94 4	546,598.13	End ℄ Conduit, Begin Stilling Basin				
22	546,563.91	End ℄ Stilling Basin, Beg. ℄ Outlet Channel				
22.00	546,298.61	51°30'	8°30'	674.07'	325.15'	605.88'
68 22	545,553.13	End ℄ Outlet Channel				
OUTH SERVICE ROAD						
83 36	547,611.23	℄ Access Road Sta 66+00				
34 69	547,631.16	90°00'	63.662°	90.00'	90.00'	141.37'
38 03	546,909.78	[illegible]	25°	229.18'	52.63'	103.47'
65.10	546,799.59	90°00'	114.592°	50.00'	50.00'	78.54'
25 90	546,825.53					



Revisions			
Symbol	Descriptions	Date	Approv

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CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by

Drawn by

Checked by

US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

GENERAL PLAN
AND ALIGNMENT DATA

Scale AS SHOWN

Sheet number

Date

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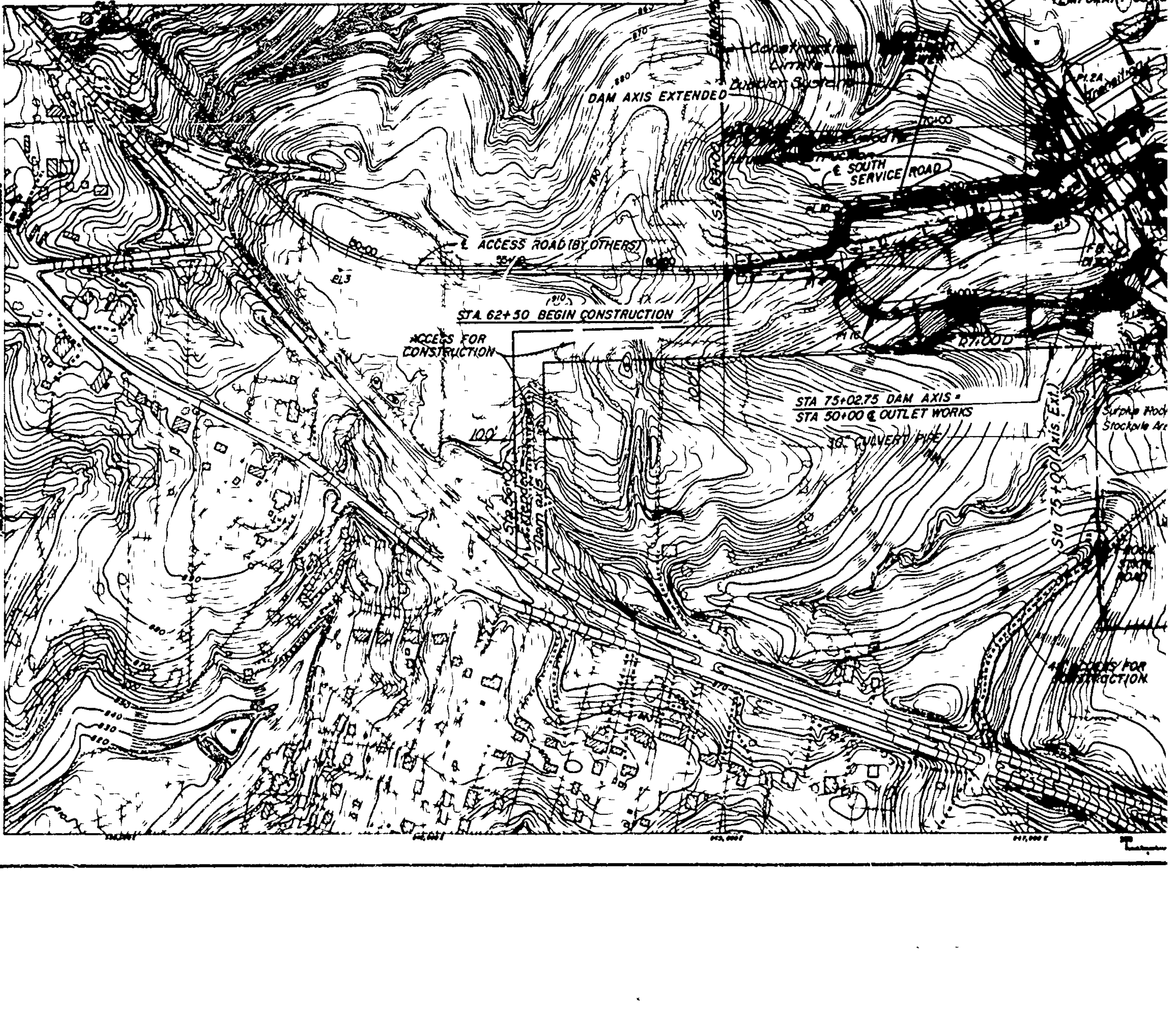
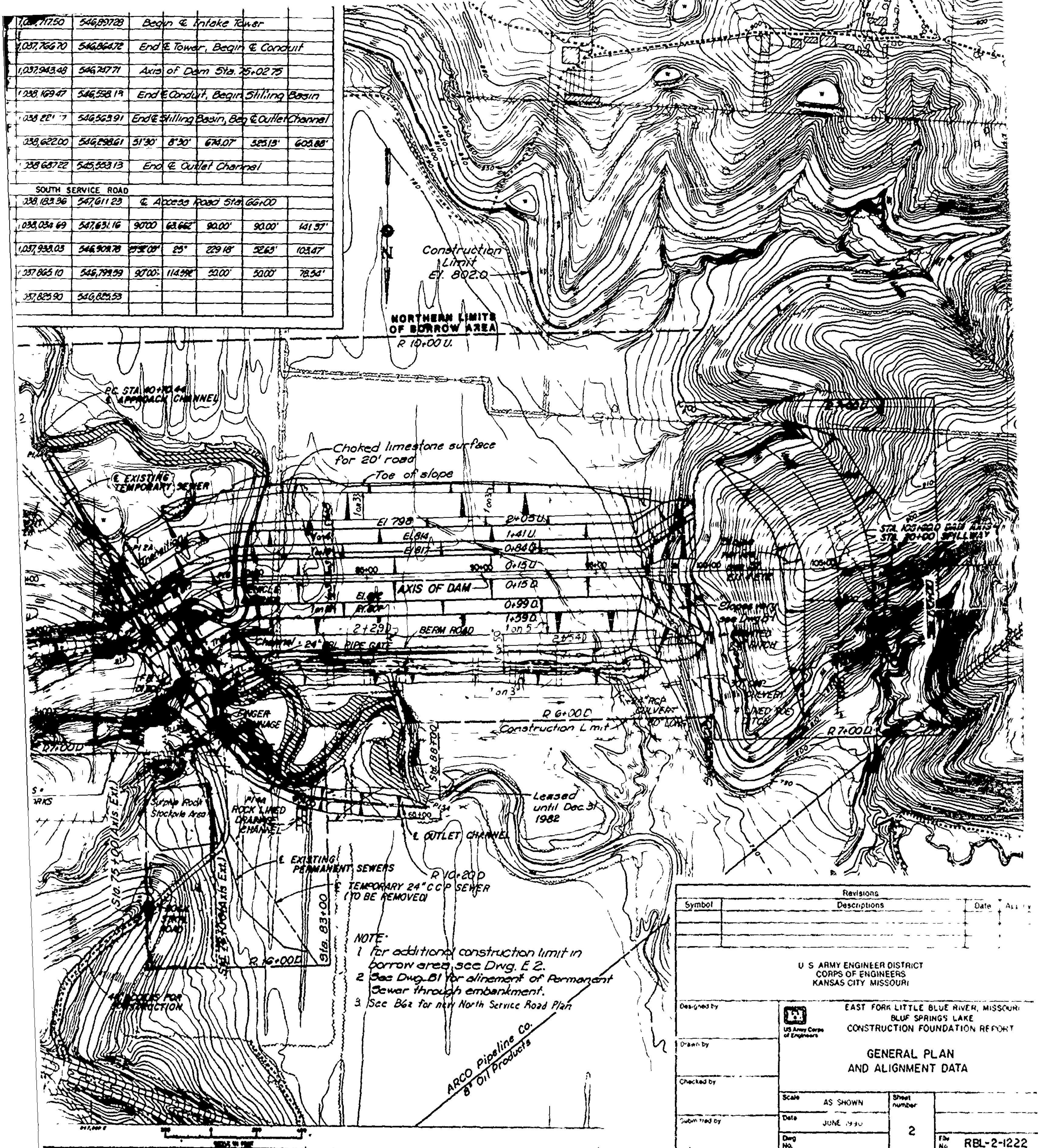
[illegible]		6			[illegible]	[illegible]	52°00'	10	572.96	164.29	320.00
80+20.02	PT										
			S88°30'W	2,704.31'							
105+60.04		7			1,057,673.13	543,742.82	℄ Spillway Sta 20+00				
SPILLWAY											
10+00	POT				1,037,086.23	544,420.27					
			N.69°30'W	250.00'							
12+50	PC				1,037,113.78	544,186.11					
			N69°30'W	488.21'							
		1B			1,037,284.75	543,728.81	70°30'	8.294°	690.80'	488.21'	850.00'
			N.1°00'E	488.21'							
21+00	RT				1,037,772.89	543,737.33					
			N.1°00'E	500.00'							
26+00					1,038,272.81	543,746.06					
20+00	POC				1,037,673.13	543,742.82	℄ Dam Sta 105+60.04				
			N.50°8'49"W	99.91'							
21+00	RT				1,037,772.89	543,737.33					
NORTH SERVICE ROAD											
0+00	POT				1,038,183.56	547,611.23	℄ Access Road Sta 66+00				
			N7°57'35"W	219.76'							
0+51.22 3+04.82	PC PT	1C			1,038,401.18	547,582.05	56°22'05"	35°	150.78'	168.54'	253.60'
			S76°00'W	563.72'							
3+61.34 6+36.34	PC PT	2C			1,038,513.18	547,229.13	16°30'	6°	954.93'	158.46'	275.00'
			N.87°30'W	560.73'							
9+54.01 11+24.32	PC PRC	3C			1,038,337.64	546,668.94	85°80'	49°31	115.71'	104.80'	170.31'
			S.6°10'W	154.16'							
11+24.32 12+17.13	PRC PCC	4C			1,038,185.05	546,647.04	48°20'	52°04'30"	110.03'	49.37'	92.81'
			S.56°30'W	129.36'							
12+17.13 13+42.79	PCC PT	5C			1,038,113.64	546,532.15	90°	71°37'11	80.00'	80.00'	125.66'
[illegible]	PT		EQUATION								
			N.33°30'W	140.00'							
14+00.98	PI	6C			1,038,250.98	546,481.89					
			S.58°30'W	250.28'							
15+00.70 17+92.12	PC PT	7C			1,036,032.84	546,253.17	33°30	11°27'33"	500.00'	150.48	292.34'
			N.85°00'W	1,650.93'							
33+03.83					1,038,098.85	544,922.18					

47+86	POT				1,037,766.70	546,864.72	End ℄ Tower	
			N.33°30'W	212.00'				
50+00	POT				1,037,943.48	546,747.71	Axis of Dam	
			N33°30'W	271.00'				
52+71	POT				1,038,169.47	546,598.13	End ℄ Conduit	
			N33°30'W	62.00'				
53+33	POT				1,038,221.17	546,563.91	End ℄ Stilling B	
			N33°30'W	480.65'				
54+88.55 60+94.43	PC PT	4A			1,038,622.00	546,298.61	51°30'	8°30'
			N85°00'W	748.35'				
65+17.63		5A			1,038,687.22	545,553.13	End ℄ Outle	
SOUTH SERVICE ROAD								
0+00	POT				1,038,183.36	547,611.23	℄ Access Ro	
			S7°57'35"E	150.00'				
0+60 2+01.37	PC PT	1D			1,038,034.69	547,631.16	90°00'	63.662°
			S.82°2'05"W	727.82'				
7+86.56 8+90.03	PC PT	2D			1,037,938.03	546,909.78	27°32'05"	25°
			S.56°30'W	132.14'				
9+19.54 9+98.08	PC RT	3D			1,037,865.10	546,799.59	90°00'	114.592°
			S.33°30'E	50.00'				
9+98.08	PT				1,057,825.90	546,825.53		



1,0[illegible],717.50	546,897.28	Begin ℄ Intake Tower				
1,037,766.70	546,864.72	End ℄ Tower, Begin ℄ Conduit				
1,037,943.48	546,717.71	Axis of Dam Sta. 75+02.75				
1,038,169.47	546,558.19	End ℄ Conduit, Begin Stilling Basin				
1,038,22[illegible]	546,563.91	End ℄ Stilling Basin, Beg ℄ Outlet Channel				
1,038,622.00	546,298.61	51°30'	8°30'	674.07'	325.15'	605.88'
1,038,687.22	545,553.13	End ℄ Outlet Channel				
SOUTH SERVICE ROAD						
1,038,183.96	547,611.23	℄ Access Road Sta. 66+00				
1,038,034.69	547,631.16	90°00'	63.662°	90.00'	90.00'	141.37'
1,037,938.03	546,909.78	25°[illegible]08'	25°	229.18'	52.63'	103.47'
1,037,865.10	546,799.59	90°00'	114.592°	50.00'	50.00'	78.54'
1,037,825.90	546,825.53					



NOTE:
1. For additional construction limit in borrow area see Dwg. E 2.
2. See Dwg. B1 for alinement of Permanent Sewer through embankment.
3. See B62 for new North Service Road Plan

Symbol	Revisions Descriptions	Date	Approved

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by / Drawn by / Checked by / Submitted by

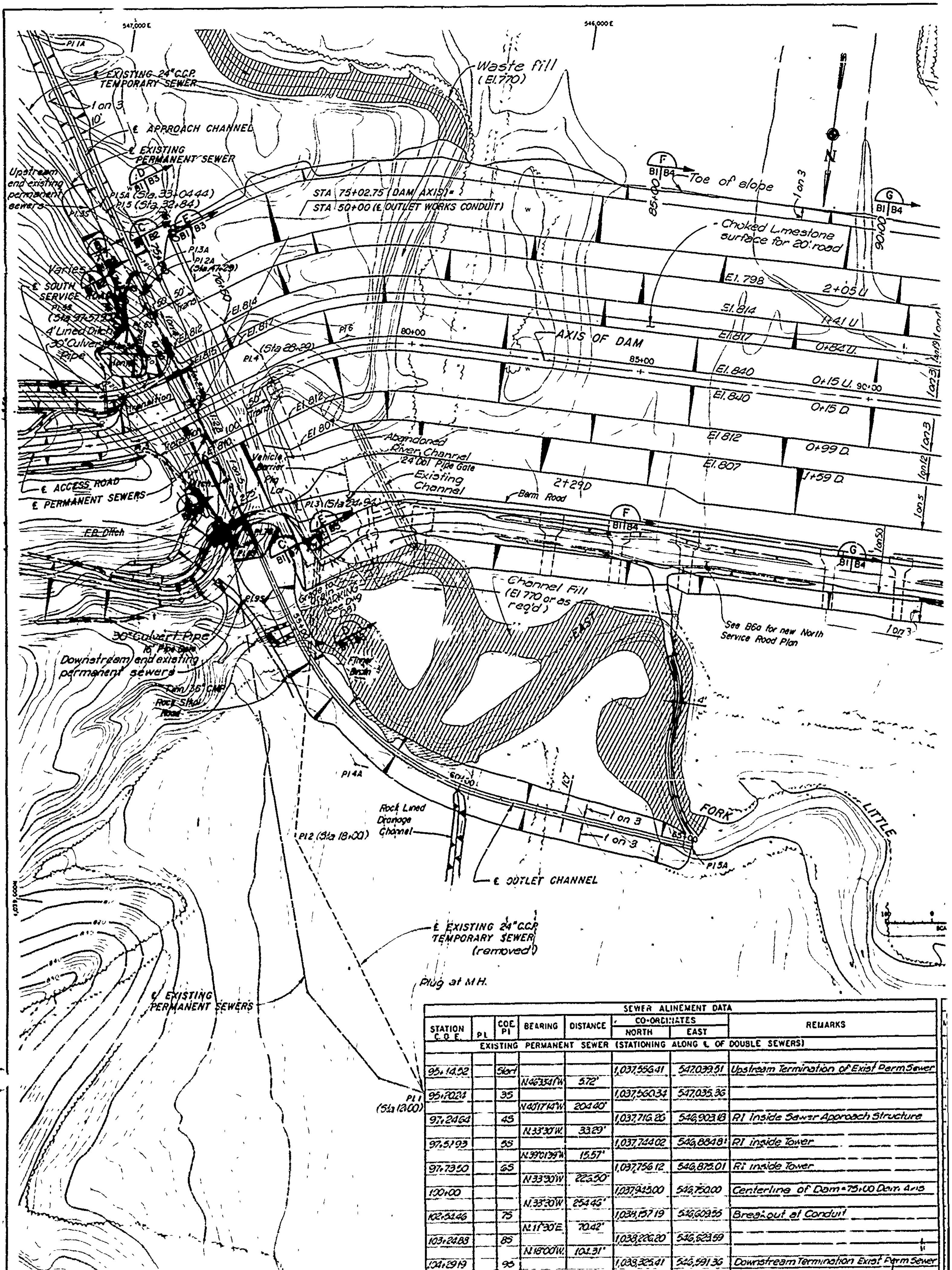
US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

GENERAL PLAN
AND ALIGNMENT DATA

Scale: AS SHOWN
Date: JUNE 1990
Sheet number: 2
File No. RBL-2-1222

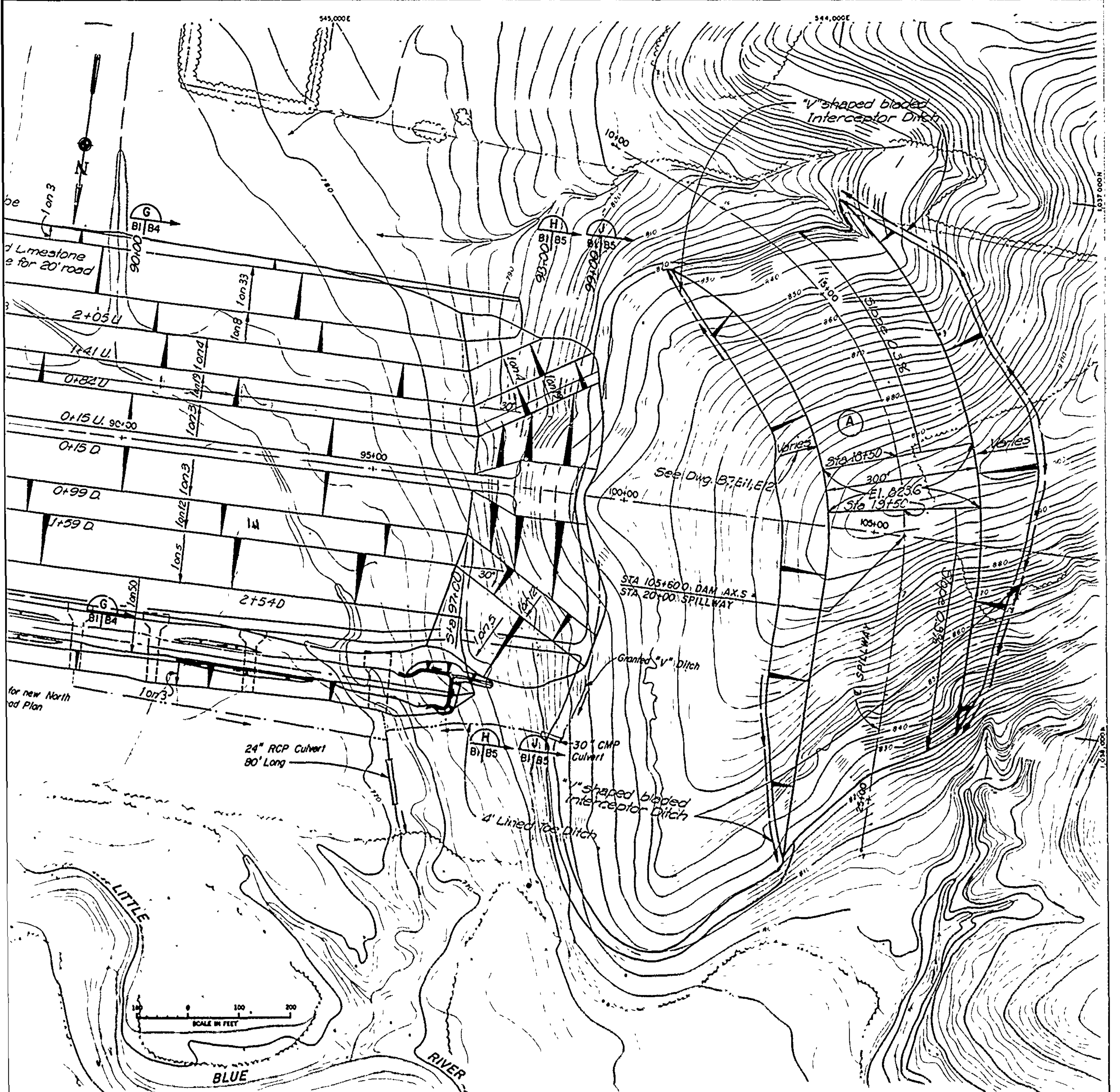
PLATE NO



SEWER ALINEMENT DATA

STATION C.O.E.	PL	COE PI	BEARING	DISTANCE	CO-ORDINATES NORTH	CO-ORDINATES EAST	REMARKS
EXISTING PERMANENT SEWER (STATIONING ALONG ℄ OF DOUBLE SEWERS)							
95+14.52		Start			1,037,556.41	547,039.51	Upstream Termination of Exist Perm Sewer
			N46°35'41"W	5.72'			
95+20.24		35			1,037,560.34	547,035.36	
			N40°17'14"W	204.40'			
97+24.64		45			1,037,716.26	546,903.18	RI Inside Sewer Approach Structure
			N.33°30'W.	33.29'			
97+57.93		55			1,037,744.02	546,884.81	RI inside Tower
			N.39°01'39"W	15.57'			
97+73.50		65			1,037,756.12	546,875.01	RI inside Tower
			N33°30'W	226.50'			
100+00					1,037,945.00	546,750.00	Centerline of Dam = 75+00 Dam Axis
			N.33°30'W	254.46'			
102+54.46		75			1,038,157.19	546,609.55	Breakout at Conduit
			N.11°30'E.	70.42'			
103+24.88		85			1,038,226.20	546,623.59	
			N.18°00'W.	104.31'			
104+29.19		95			1,038,325.41	546,591.36	Downstream Termination Exist Perm Sewer

VALUE ENGINEERING PAYS



REMARKS
EWERS)
Termination of Exist Perm Sewer
le Sewer Approach Structure
le Tower
le Tower
ne of Dam = 75+00 Dam Axis
ut at Conduit
am Termination Exist Perm Sewer

SEWER ALINEMENT DATA

BURNS & McDONNELL STATION	PI		BEARING	DISTANCE	CO-ORDINATES NORTH	CO-ORDINATES EAST	REMARKS
EXIST +C .EMPORARY 24"ø CCP SEWER (APPROXIMATE LOCATION)							
12+00	1				1,039,272.31	546,055.62	Downstream termination Plug manhole
			S36°22'00"E	600.00'			
18+00	2				1,038,789.17	546,411.59	
			S3°13'00"E	694.00'			
24+94	3				1,038,096.26	546,450.53	
			S31°29'00"E	335.00'			Temporary sewer to be removed
28+29	4				1,037,810.57	546,625.49	
			S56°39'00"E	455.00'			
32+84	5				1,037,560.44	547,005.56	
			S46°57'00"E	20.44'			
33+04.44	5A				1,037,546.-3	547,020.50	
			S66°57'00"E	473.14'			Upstream termination Plug Ends
37+77.58					1,037,223.50	547,366.25	

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:

Drawn by:

Checked by:

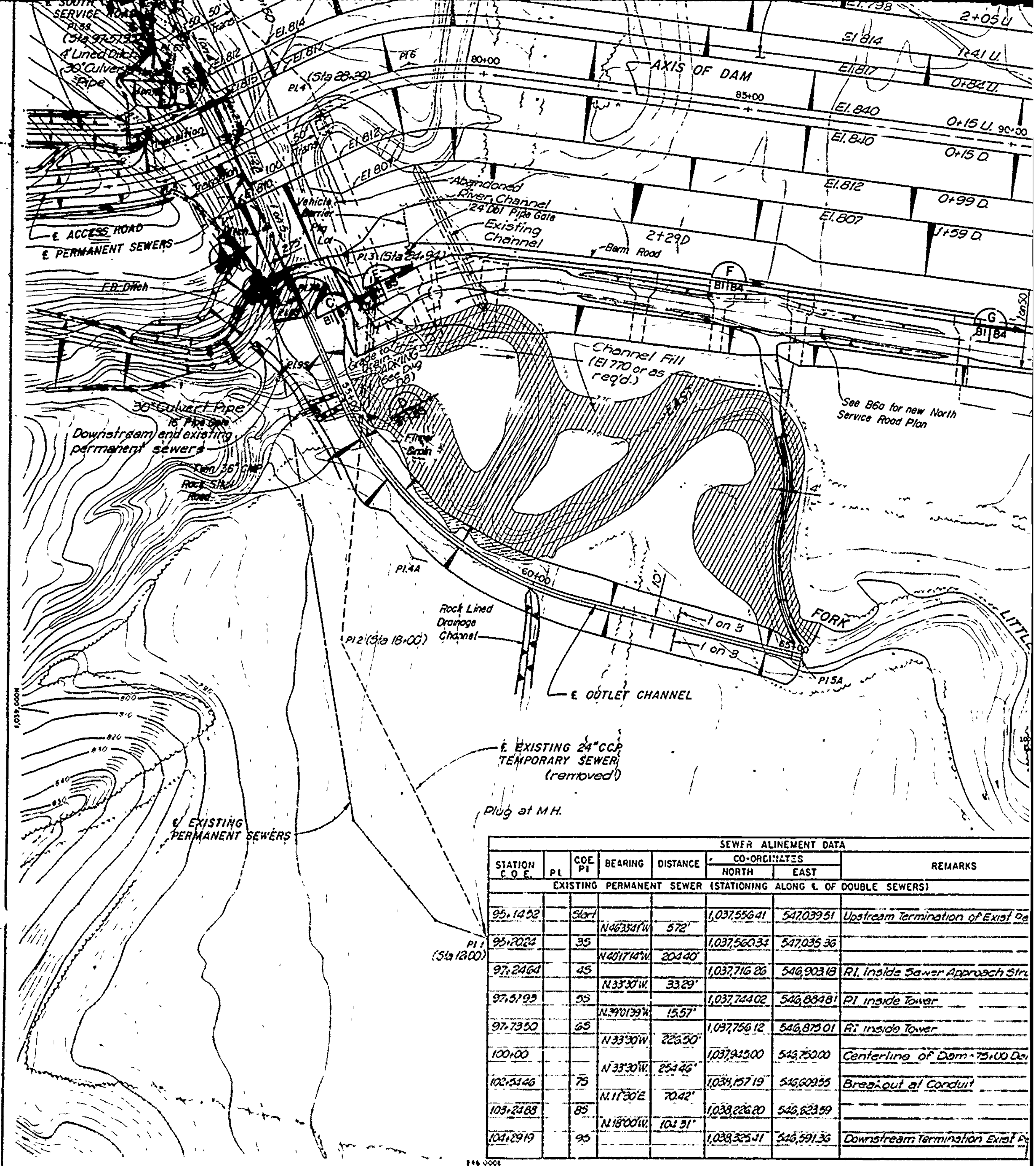
US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

EMBANKMENT PLAN AND SEWER ALINEMENT DATA

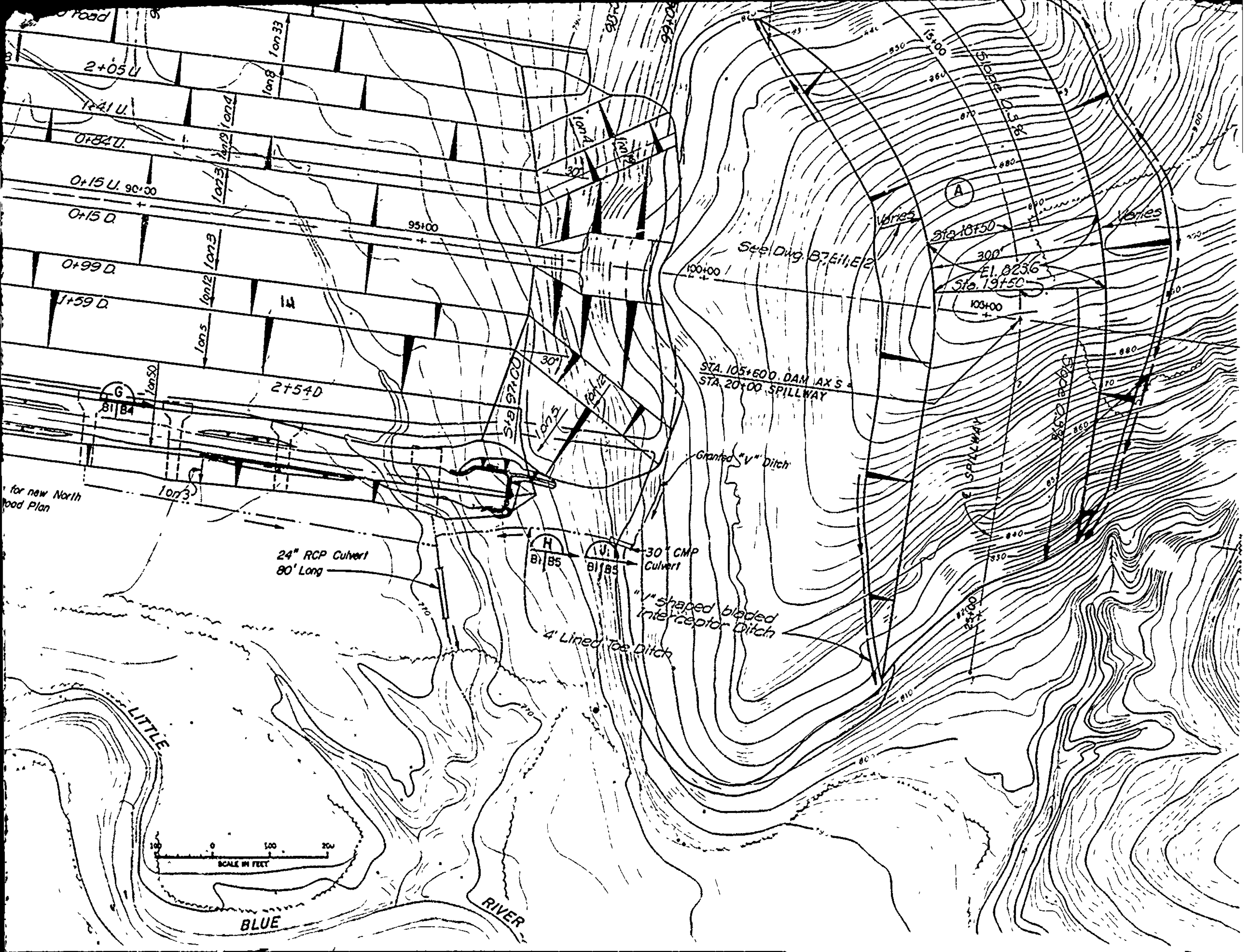
Scale: AS SHOWN

Sheet number:



SEWER ALINEMENT DATA

STATION C.O.E.	P.I.	COE PI	BEARING	DISTANCE	CO-ORDINATES NORTH	CO-ORDINATES EAST	REMARKS
EXISTING PERMANENT SEWER (STATIONING ALONG ℄ OF DOUBLE SEWERS)							
95+14.52		Start			1,037,556.41	547,039.51	Upstream Termination of Exist Pe
			N46°35'41"W	5.72'			
95+20.24		35			1,037,560.34	547,035.36	
			N40°17'14"W	204.40'			
97+24.64		45			1,037,716.26	546,903.18	P.I. Inside Sewer Approach Stru
			N.33°30'W.	33.29'			
97+57.93		55			1,037,744.02	546,884.81	PI inside Tower
			N.39°01'39"W	15.57'			
97+73.50		65			1,037,756.12	546,875.01	P.I. inside Tower
			N33°30'W	226.50'			
100+00					1,037,945.00	546,750.00	Centerline of Dam 75+00 Da
			N33°30'W.	254.46'			
102+54.46		75			1,038,157.19	546,609.55	Breakout at Conduit
			N.11°30'E	70.42'			
103+24.88		85			1,038,226.20	546,623.59	
			N18°00'W.	104.31'			
104+29.19		95			1,038,325.31	546,591.36	Downstream Termination Exist Pe



REMARKS
(SEWERS)
Termination of Exist Perm Sewer
de Sewer Approach Structure
de Tower
Tower
ne of Dam + 75+00 Dam Axis
ut at Conduit
eam Termination Exist Perm Sewer

SEWER ALINEMENT DATA

BURNS & McDONNELL STATION	PI		BEARING	DISTANCE	CO-ORDINATES NORTH	CO-ORDINATES EAST	REMARKS
EXIST. TEMPORARY 24"ø CCP SEWER (APPROXIMATE LOCATION)							
12+00	1				1,039,272.31	546,055.82	Downstream termination Plug manhole
			S36°22'00"E	600.00'			
18+00	2				1,038,789.17	546,411.59	
			S3°13'00"E	694.00'			
24+94	3				1,038,096.26	546,450.53	
			S31°29'00"E	335.00'			Temporary sewer to be removed
28+29	4				1,037,810.57	546,625.69	
			S56°39'00"E	455.00'			
32+84	5				1,037,560.43	547,005.56	
			S43°57'00"E	20.44'			
33+04.44	5A				1,037,545.3	547,020.50	
			S36°57'00"E	473.14'			Upstream termination Plug Ends
37+77.58					1,037,223.50	547,366.25	

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

US Army Corps of Engineers

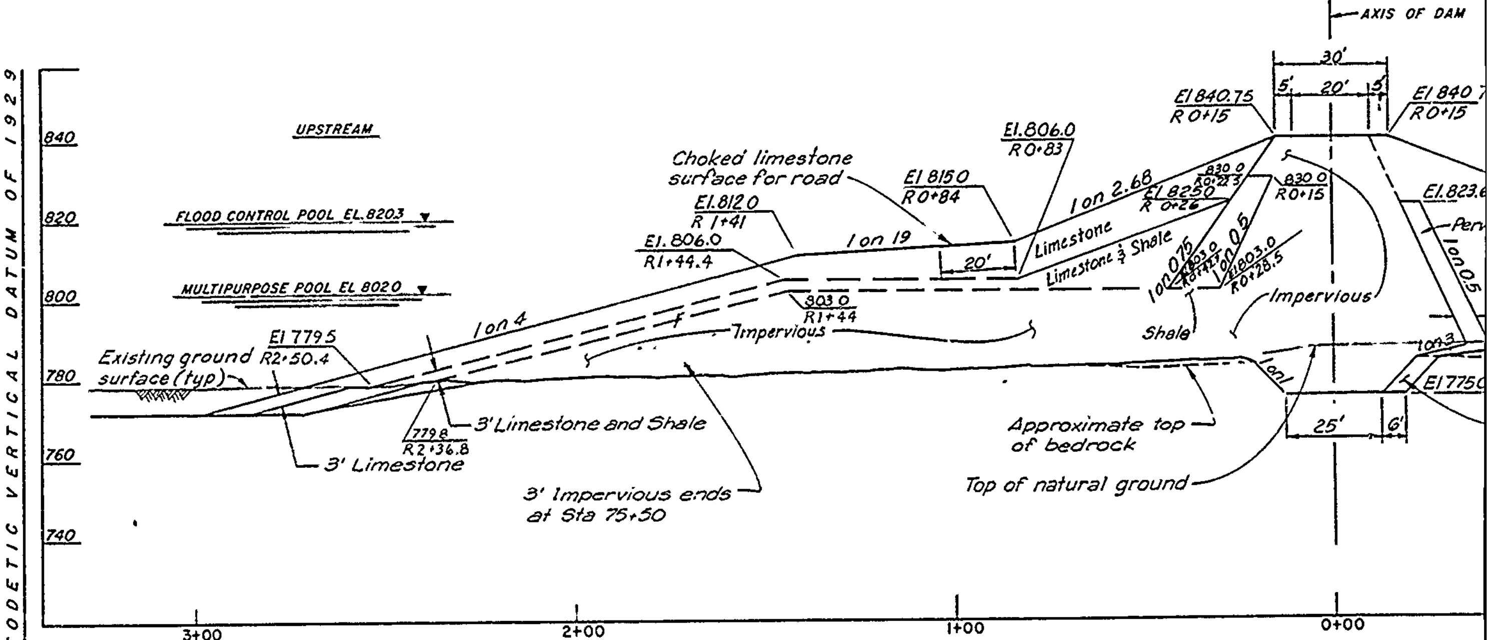
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

EMBANKMENT PLAN AND SEWER ALINEMENT DATA

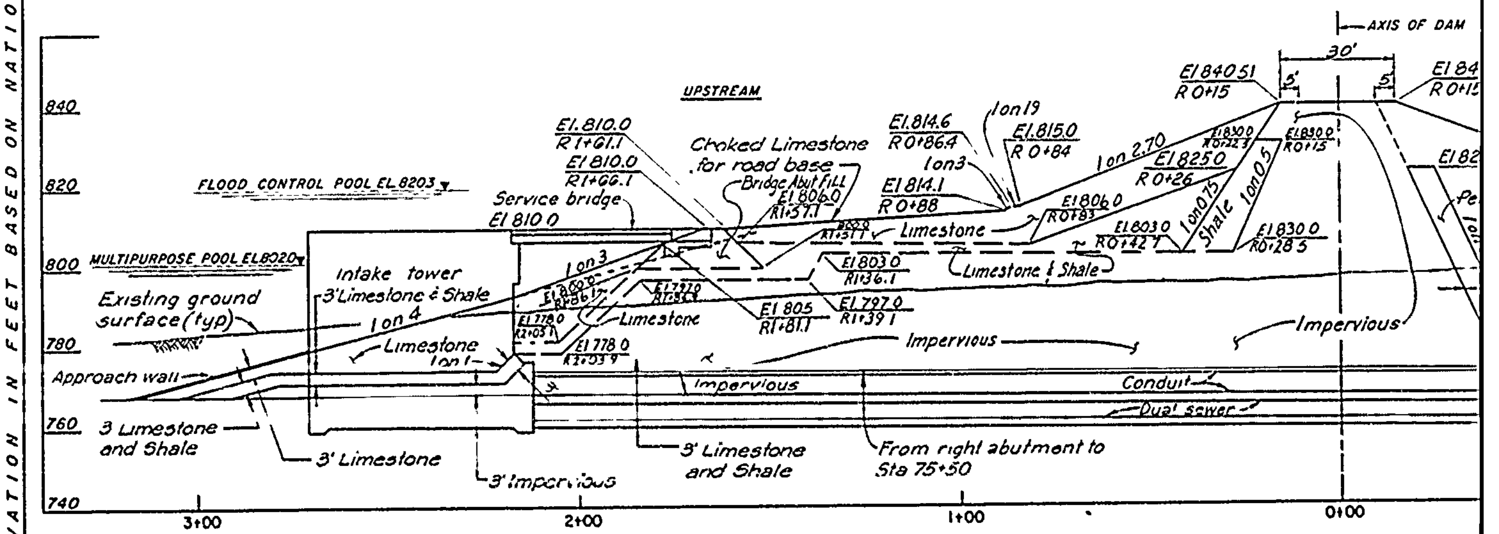
Designed by:	Scale: AS SHOWN	Sheet number: 3	
Drawn by:	Date: JUNE 1990		
Checked by:	Dwg. No.:		File No.: RBL-2-1223
Submitted by:			

PLATE NO.

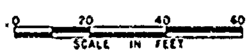
ELEVATION IN FEET BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

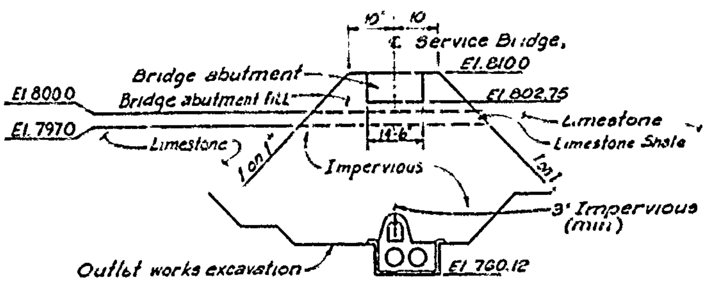


SECTION C STA. 75+50

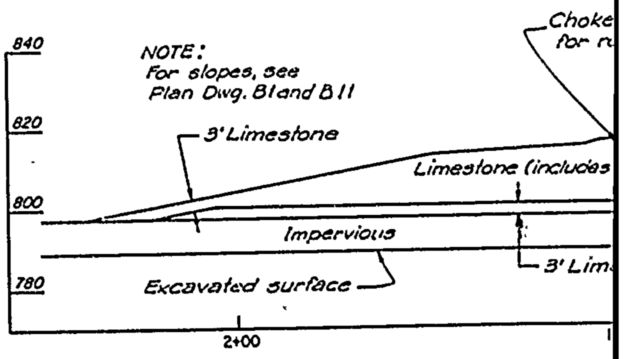


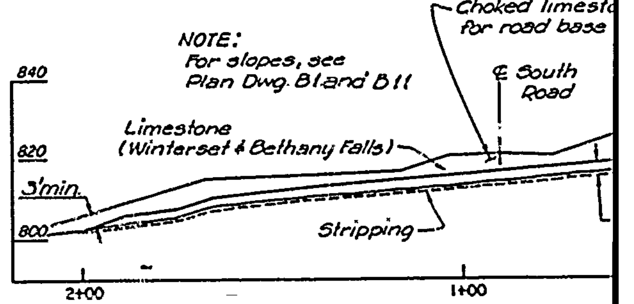
CONDUIT SECTION (STA.75+02.7



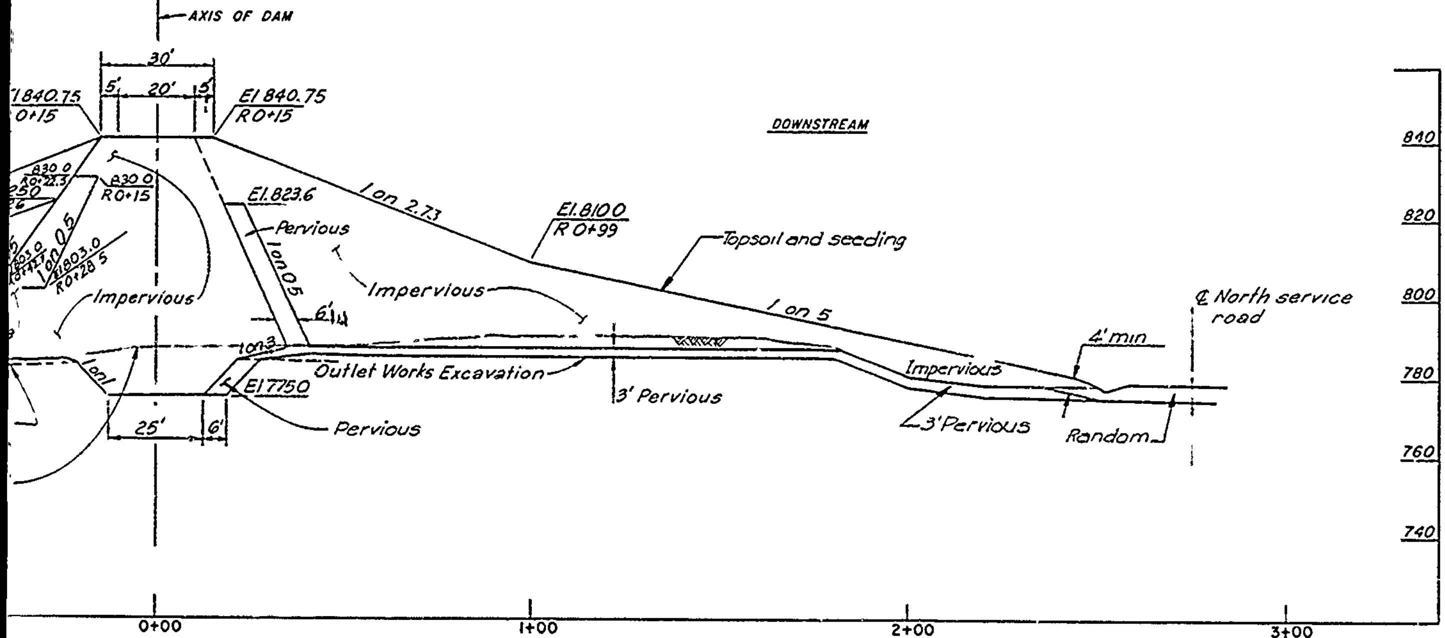


BRIDGE ABUTMENT FILL DETAIL



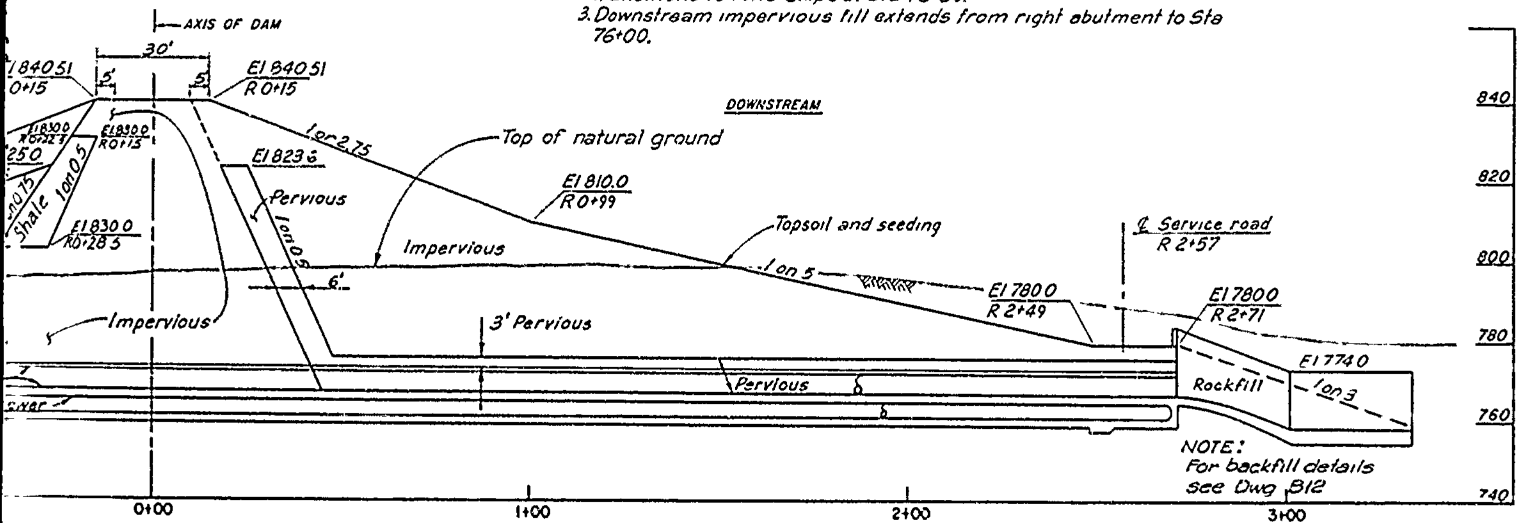


VALUE ENGINEERING PAYS

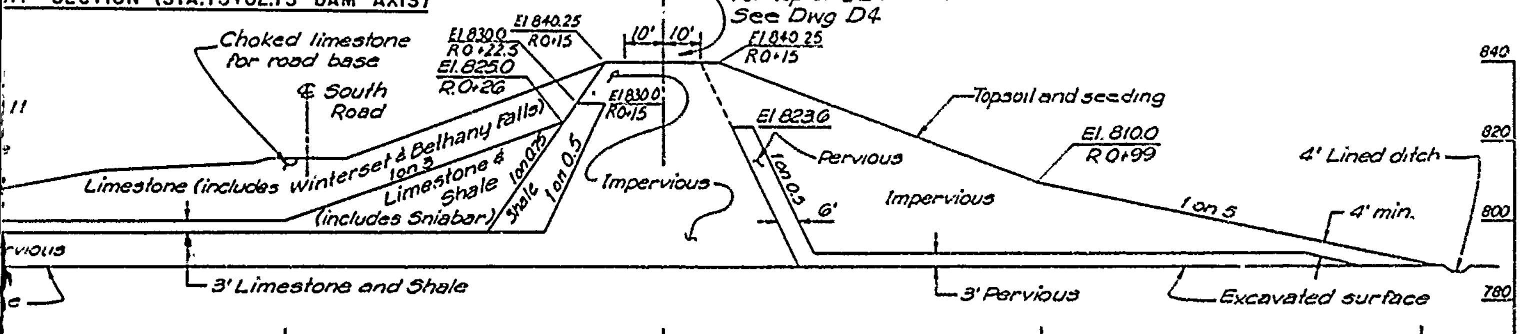


SECTION (C) B1|B2 STA. 75+50

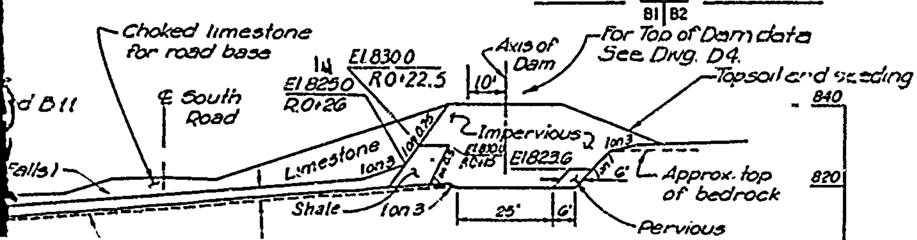
NOTES:
1. Upstream 1 on 2.76 slope extends from right abutment to Sta. 75+50 and transitions to 1 on 3 slope at Sta. 76+00
2. Downstream 1 on 2.8 slope extends from right abutment to Sta 76+00 and transitions to 1 on 3 slope at Sta 76+50.
3. Downstream impervious fill extends from right abutment to Sta 76+00.



...IT SECTION (STA. 75+02.75 DAM AXIS)



SECTION (B) B1|B2 STA. 74+50



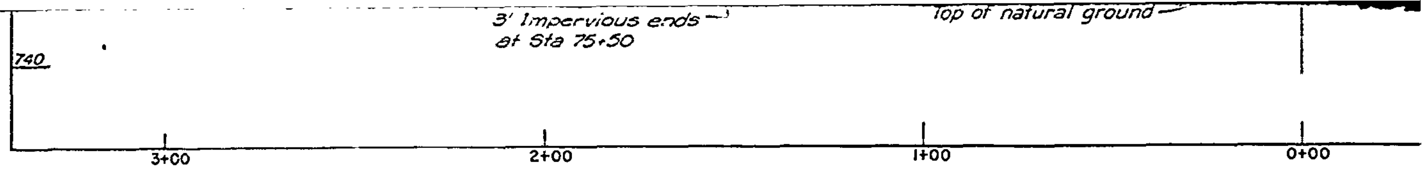
Revisions			
Symbol	Descriptions	Date	Approv

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

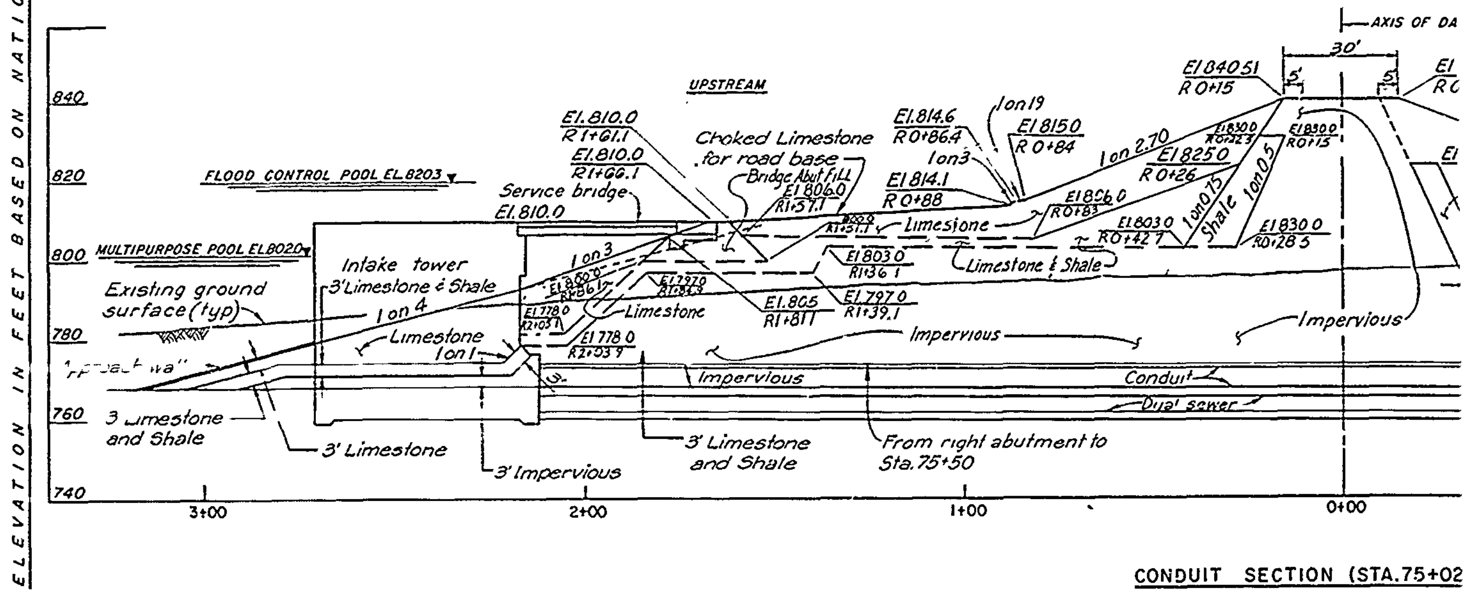
Designed by
Drawn by

US Army Corps of Engineers

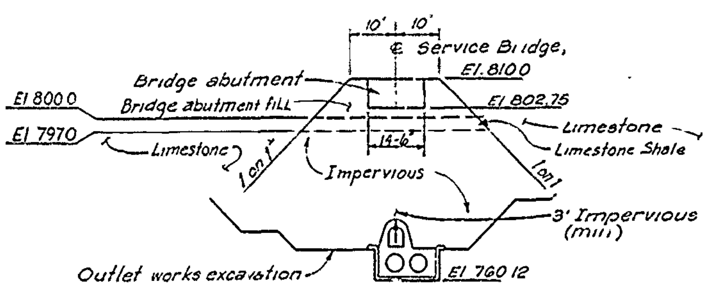
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT



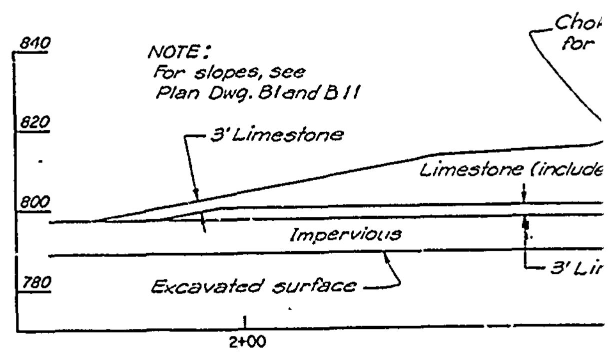
SECTION C B1|B2 STA.75-

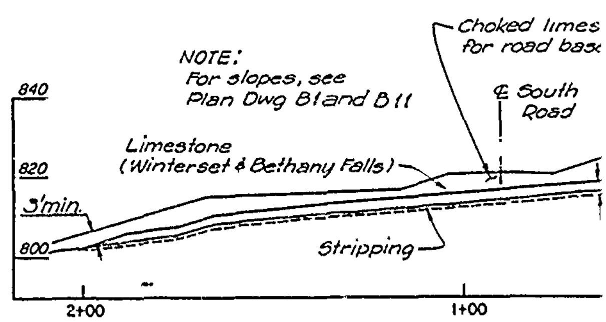


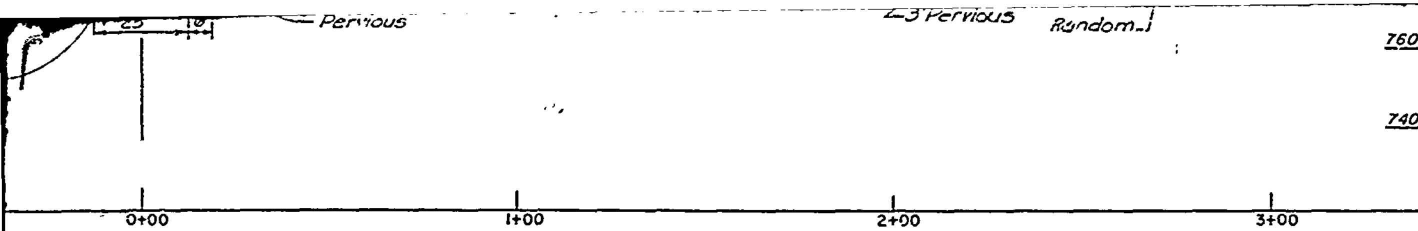
CONDUIT SECTION (STA.75+02



BRIDGE ABUTMENT FILL DETAIL

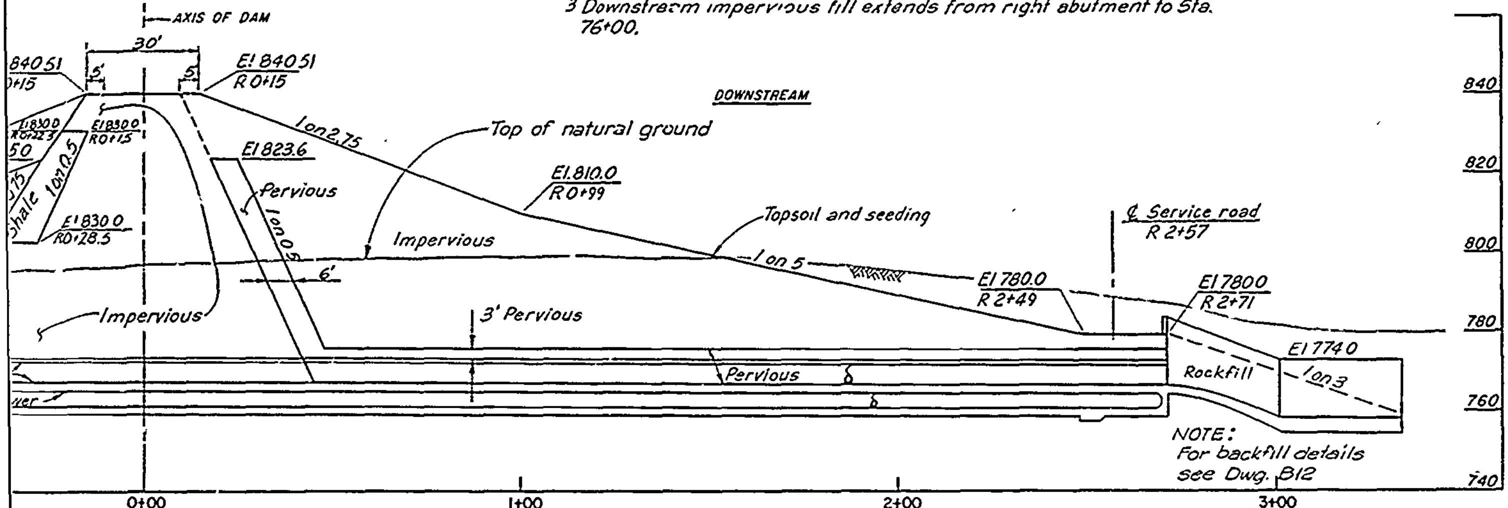




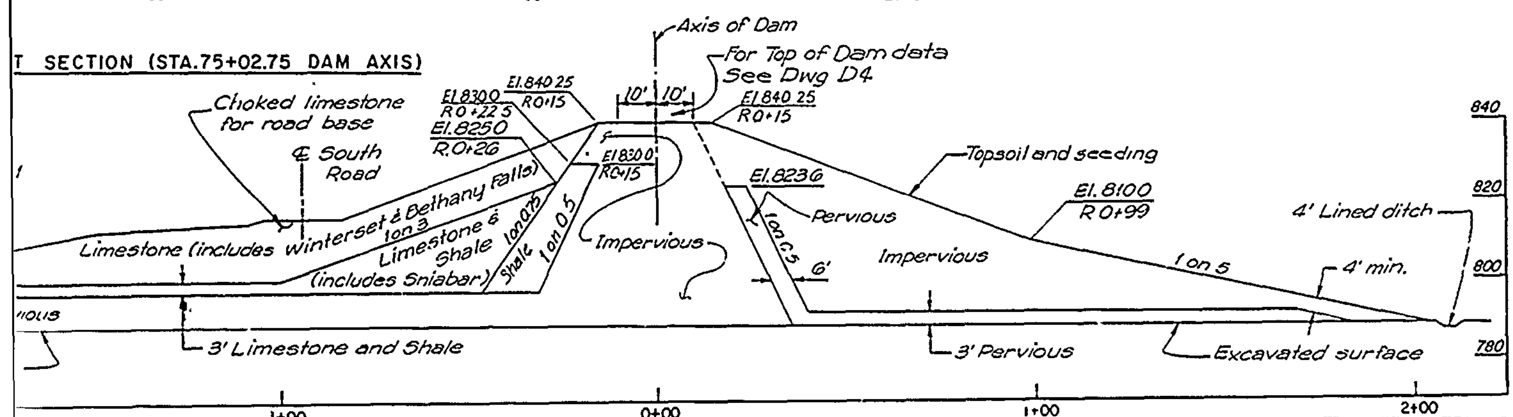


SECTION (C) STA. 75+50
B1 | B2

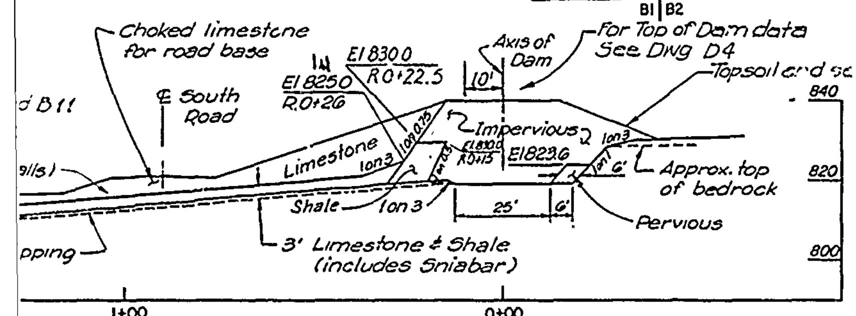
NOTES:
1. Upstream 1 on 2.76 slope extends from right abutment to Sta. 75+50 and transitions to 1 on 3 slope at Sta. 76+00.
2. Downstream 1 on 2.8 slope extends from right abutment to Sta. 76+00 and transitions to 1 on 3 slope at Sta 76+50.
3. Downstream impervious fill extends from right abutment to Sta. 76+00.



T SECTION (STA. 75+02.75 DAM AXIS)



SECTION (B) STA. 74+50
B1 | B2



SECTION (A) STA. 74+00
B1 | B2

Revisions			
Symbol	Descriptions	Date	Approved

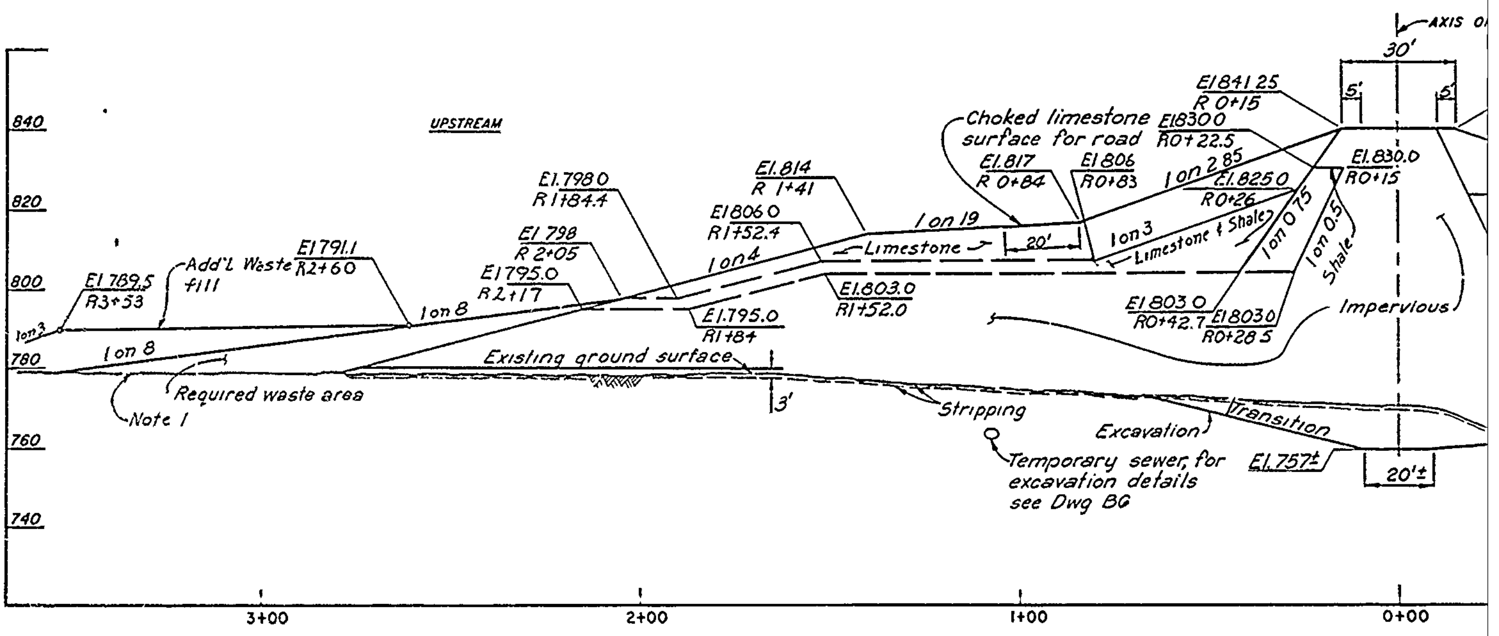
U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by:	TYPICAL EMBANKMENT, SECTIONS AND DETAILS
Checked by:	Scale. AS SHOWN — Sheet number: 4
Submitted by:	Date. JUNE 1990 — Dwg No. — File No. RBL-2-1224

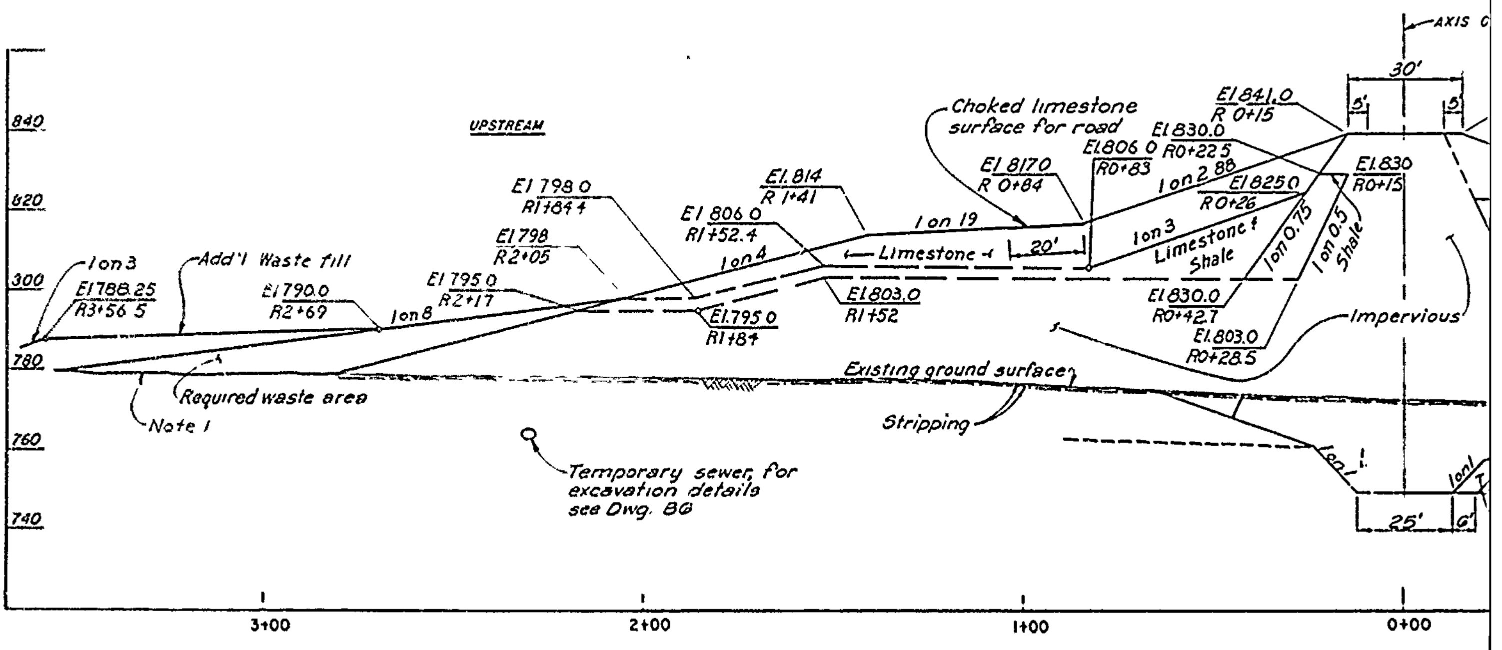
US Army Corps of Engineers

PLATE NO. 4

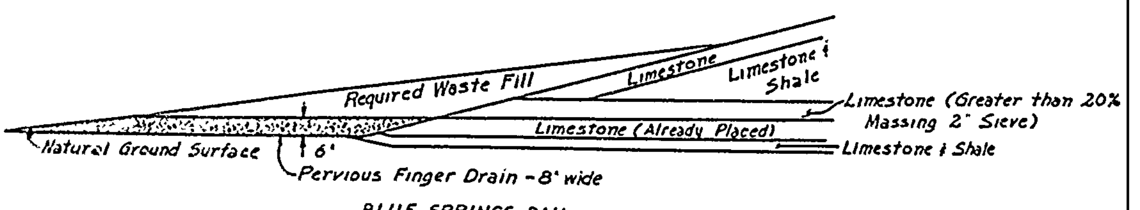
ELEVATION IN FEET BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929



SECTION E B1|B3 STA.

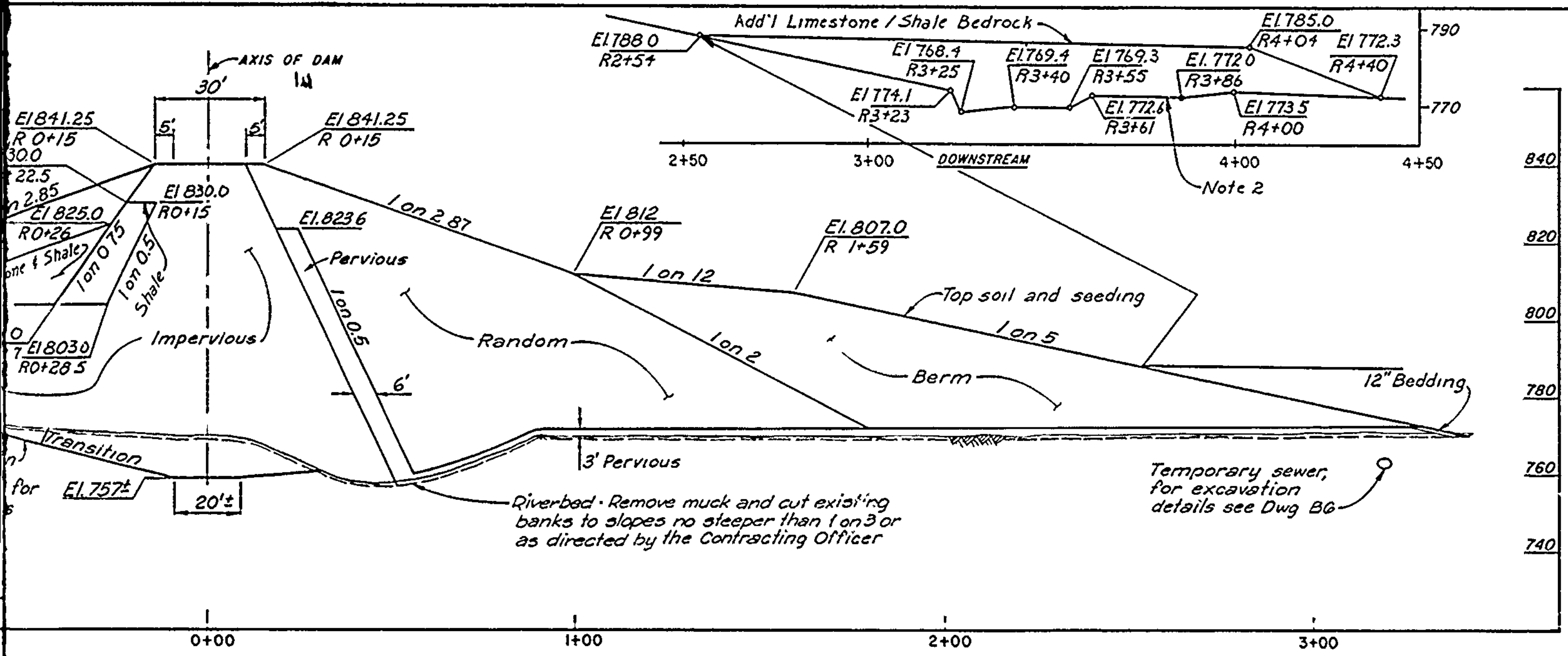


SECTION D B1|B3 STA



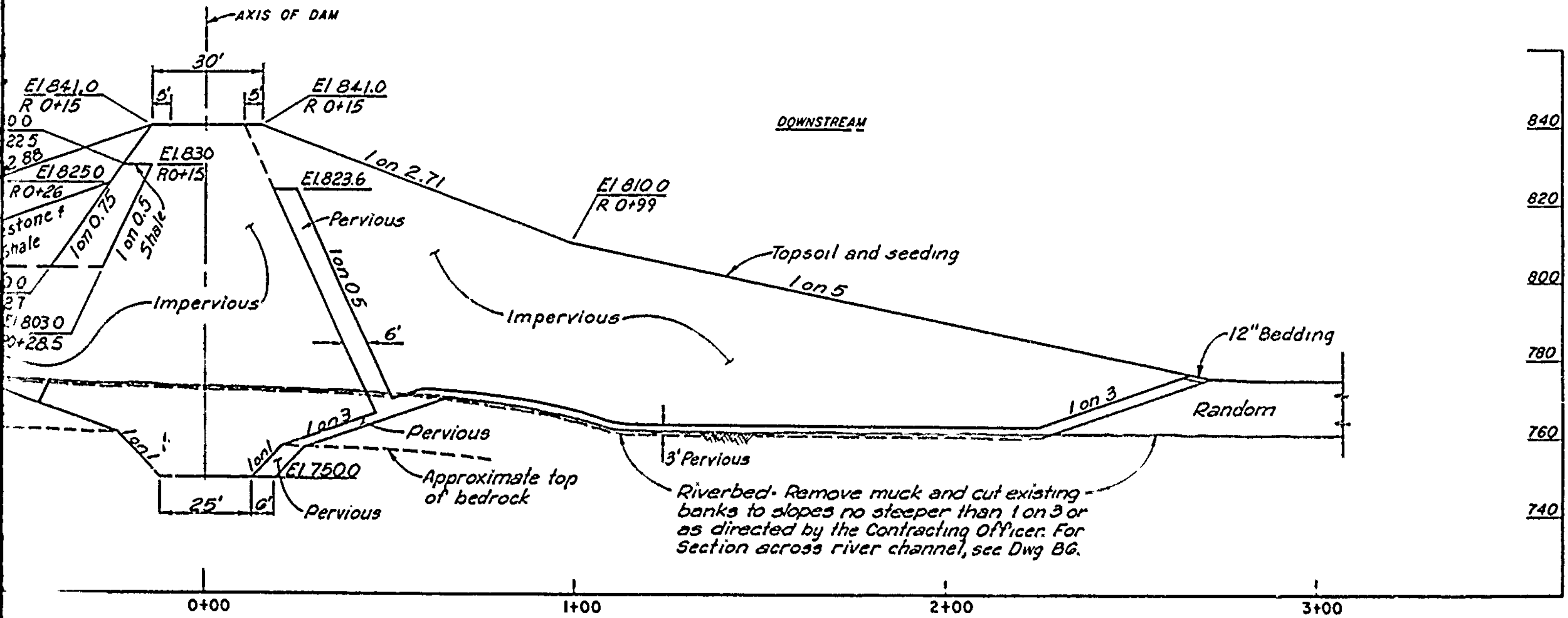
BLUE SPRINGS DAM
Finger Drains Through Waste Fill

VALUE ENGINEERING PAYS



SECTION E STA. 76+50
B1 | B3

NOTE:
The impervious fill transitions (slopes) to random and berm fill at Sta 76+50. Construct full impervious at Sta. 76+00 and full random and berm at Sta 76+50. "For pay purposes only" - The break point of impervious to Ramdom and berm will be Station 76+25.



SECTION D STA 76+00.
B1 | B3

Limestone (Greater than 20% Massing 2" Sieve)
Limestone & Shale

NOTES:
1. 6' thick x 8' wide pervious finger drains at Stations 83+00, 85+50, 88+00, 90+50, 93+00 and 95+50.
2. 18" Limestone fill with 3' thick x 20' wide pervious finger drains at Stations 77+00, 79+00, 81+00, 83+00, 85+00, 87+00, 89+00, 91+00, 93+00 and 50' wide at 95+00.
3. Upstream 1 on 2.76 slope extends from right abutment to Sta. 75+50 and transitions to 1 on 3 slope at Sta. 76+00.
4. Downstream 1 on 2.8 slope extends from right abutment to Sta. 76+00 and transitions to 1 on 3 slope at Sta. 76+50.
5. Downstream impervious fill extends from right abutment to Sta. 76+00.

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

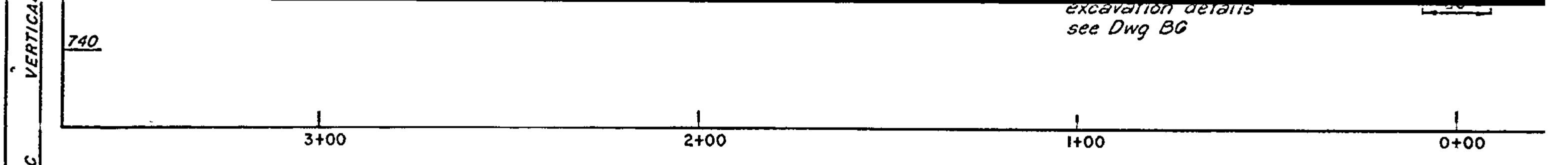
Designed by:
Drawn by:
Checked by:

US Army Corps of Engineers

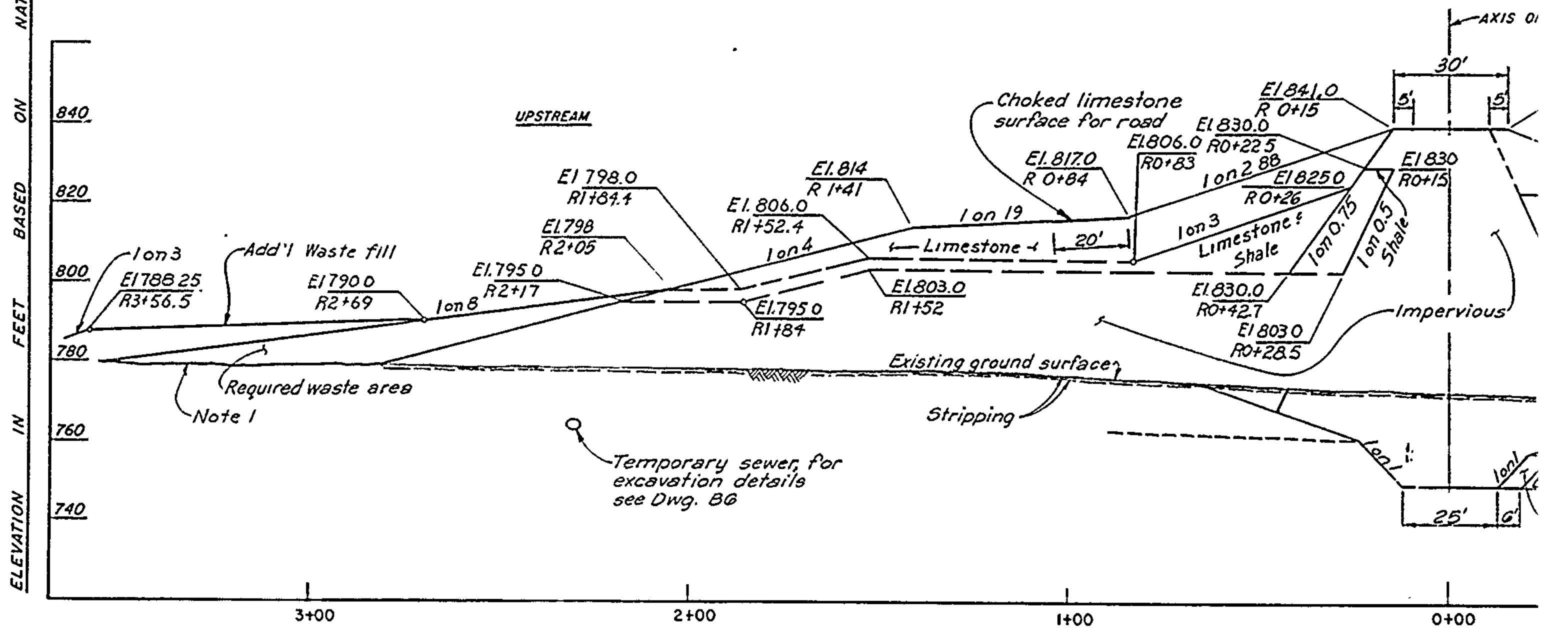
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

EMBANKMENT SECTIONS

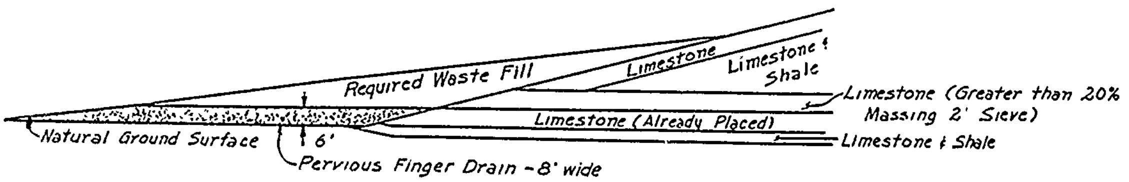
Scale:
Sheet



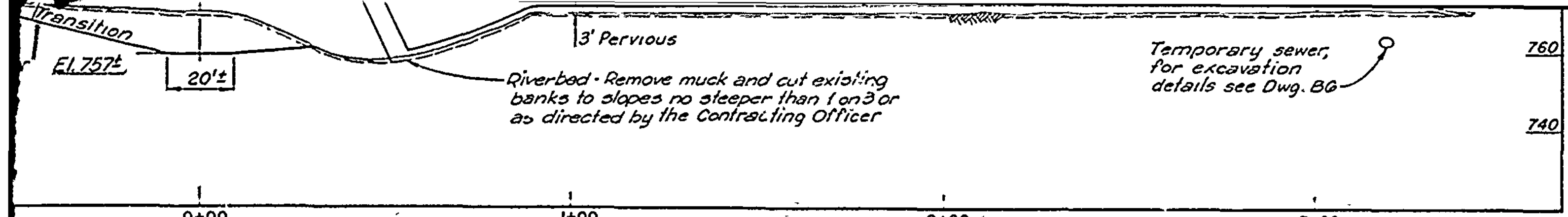
SECTION E B1|B3 STA.



SECTION D B1|B3 STA

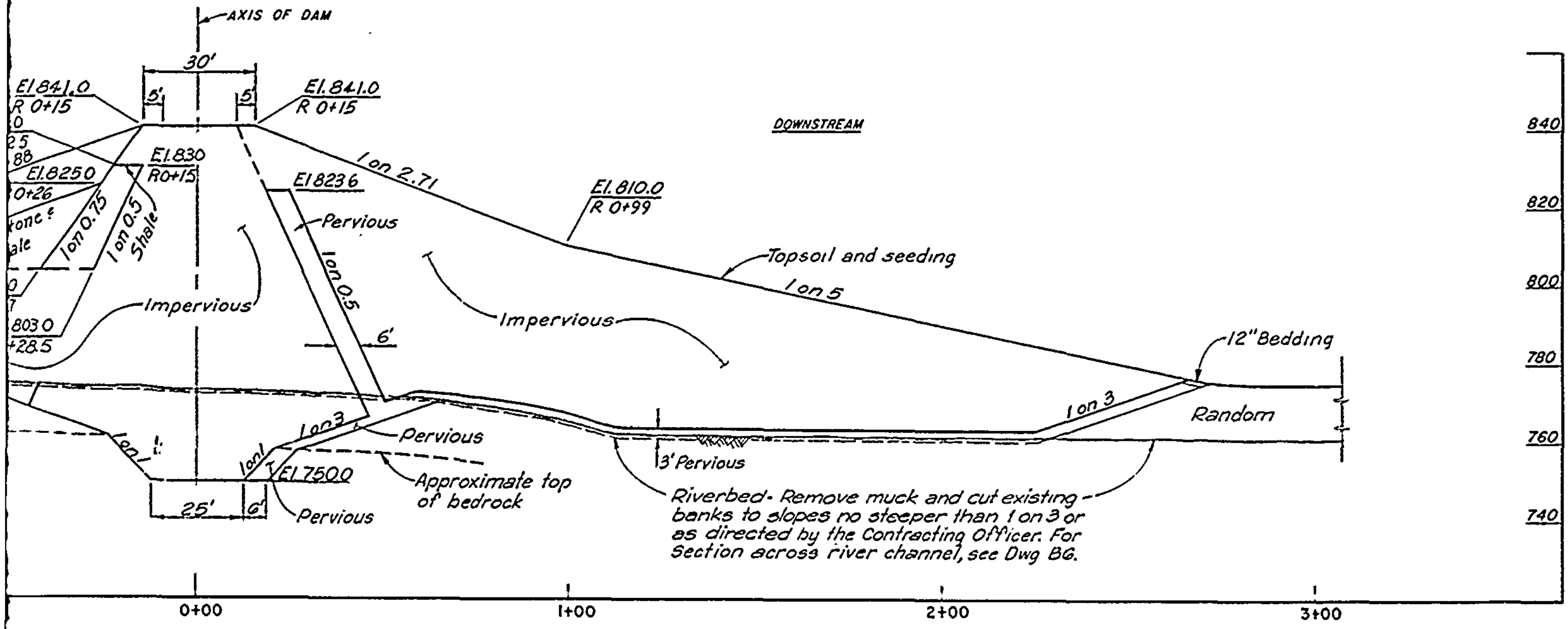


BLUE SPRINGS DAM
Finger Drains Through Waste Fill



SECTION (E) B1|B3 STA. 76+50

NOTE:
The impervious fill transitions (slopes) to random and berm fill at Sta. 76+50. Construct full impervious at Sta. 76+00 and full random and berm at Sta 76+50.
"For pay purposes only" - The break point of impervious to Ramdom and berm will be Station 76+25.



SECTION (D) B1|B3 STA. 76+00

: mestone (Greater than 20% Passing 2" Sieve)
imestone & Shale

NOTES:
1. 6' thick x 8' wide pervious finger drains at Stations 83+00, 85+50, 88+00, 90+50, 93+00 and 95+50.
2. 18" Limestone fill with 3' thick x 20' wide pervious finger drains at Stations 77+00, 79+00, 81+00, 83+00, 85+00, 87+00, 89+00, 91+00, 93+00 and 50' wide at 95+00.
3. Upstream 1 on 2.76 slope extends from right abutment to Sta. 75+50 and transitions to 1 on 3 slope at Sta. 76+00.
4. Downstream 1 on 2.8 slope extends from right abutment to Sta. 76+00 and transitions to 1 on 3 slope at Sta. 76+50.
5. Downstream impervious fill extends from right abutment to Sta. 76+00.

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:
Drawn by:
Checked by:
Submitted by:

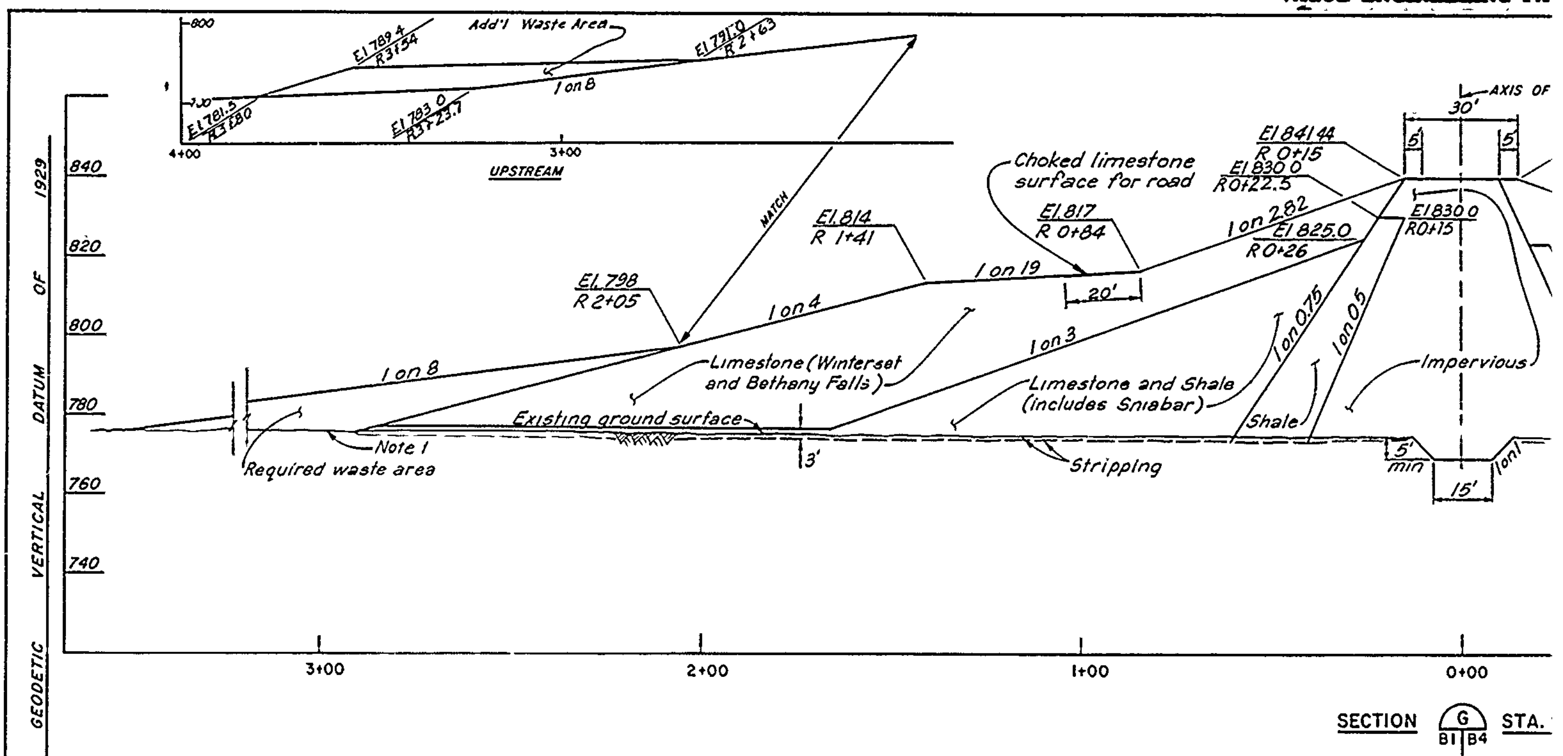
US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

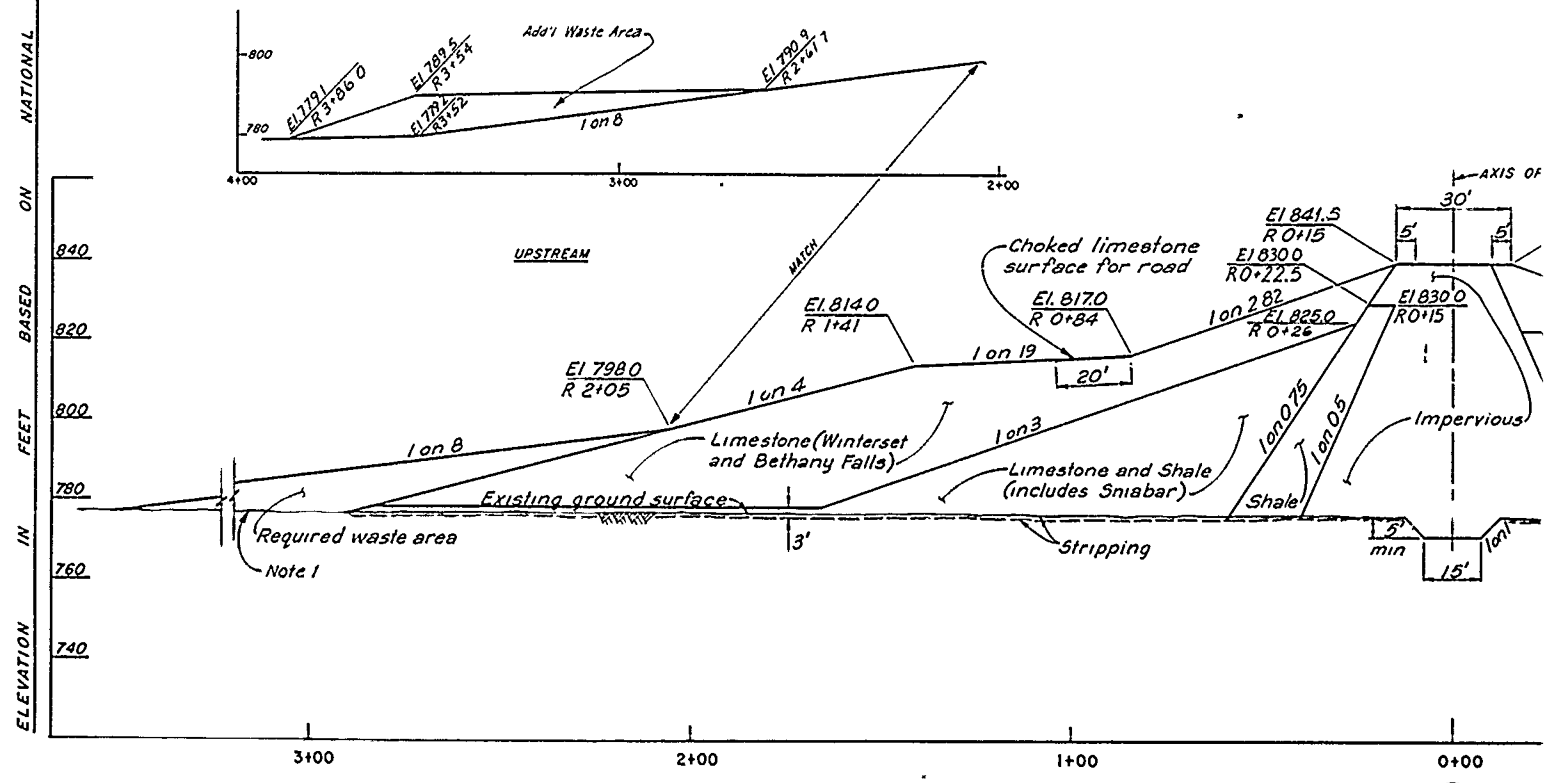
EMBANKMENT SECTIONS

Scale: AS SHOWN
Date: JUNE 1990
Sheet number: 5
Dwg No.:
File No. RBL-2-1225

PLATE NO. 5

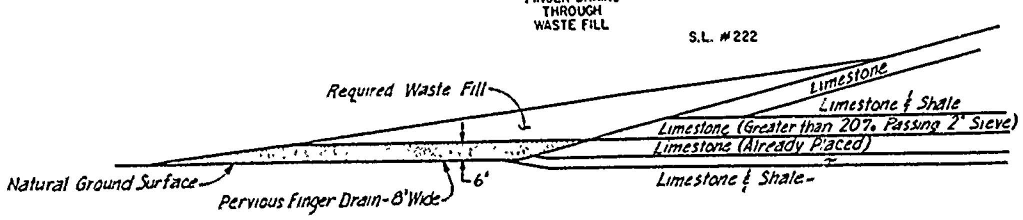


SECTION G/B1|B4 STA.



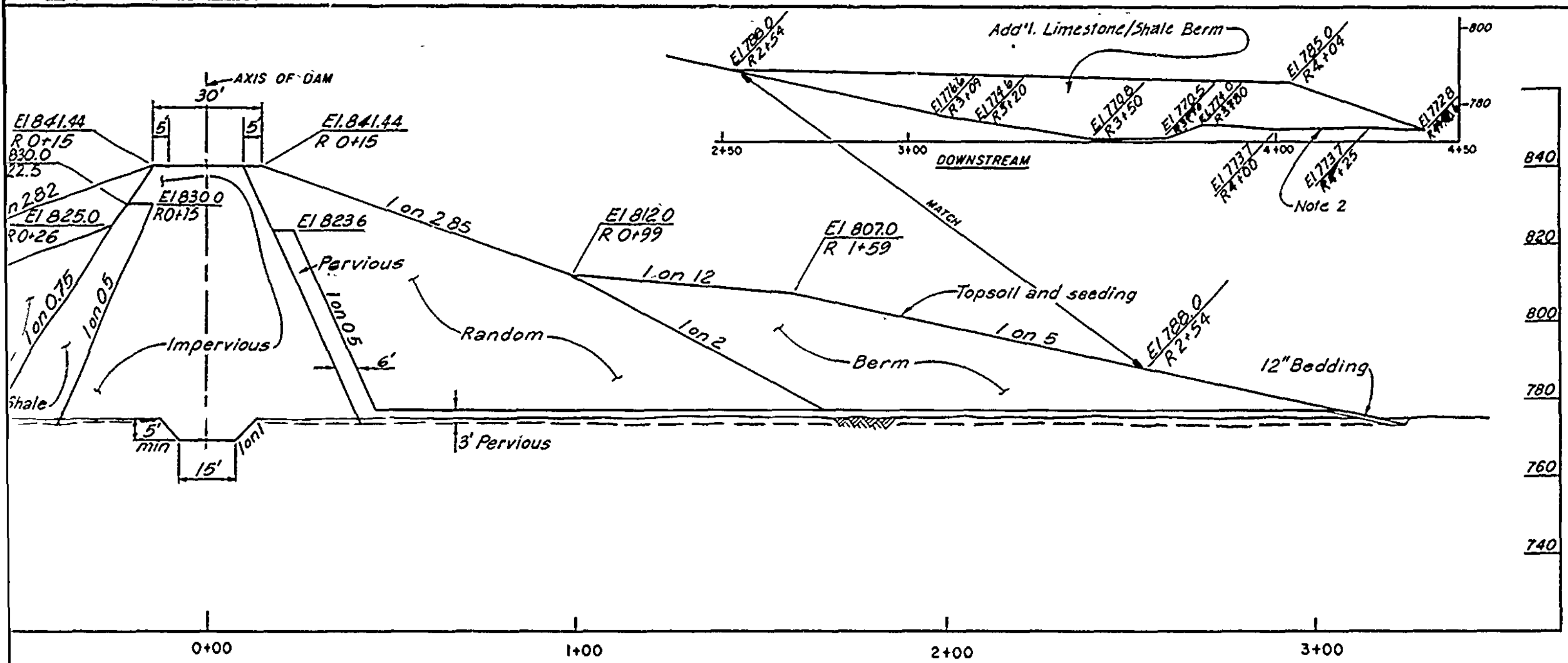
SECTION F/B1|B4 STA

BLUE SPRINGS DAM
FINGER DRAINS THROUGH WASTE FILL
S.L. #222

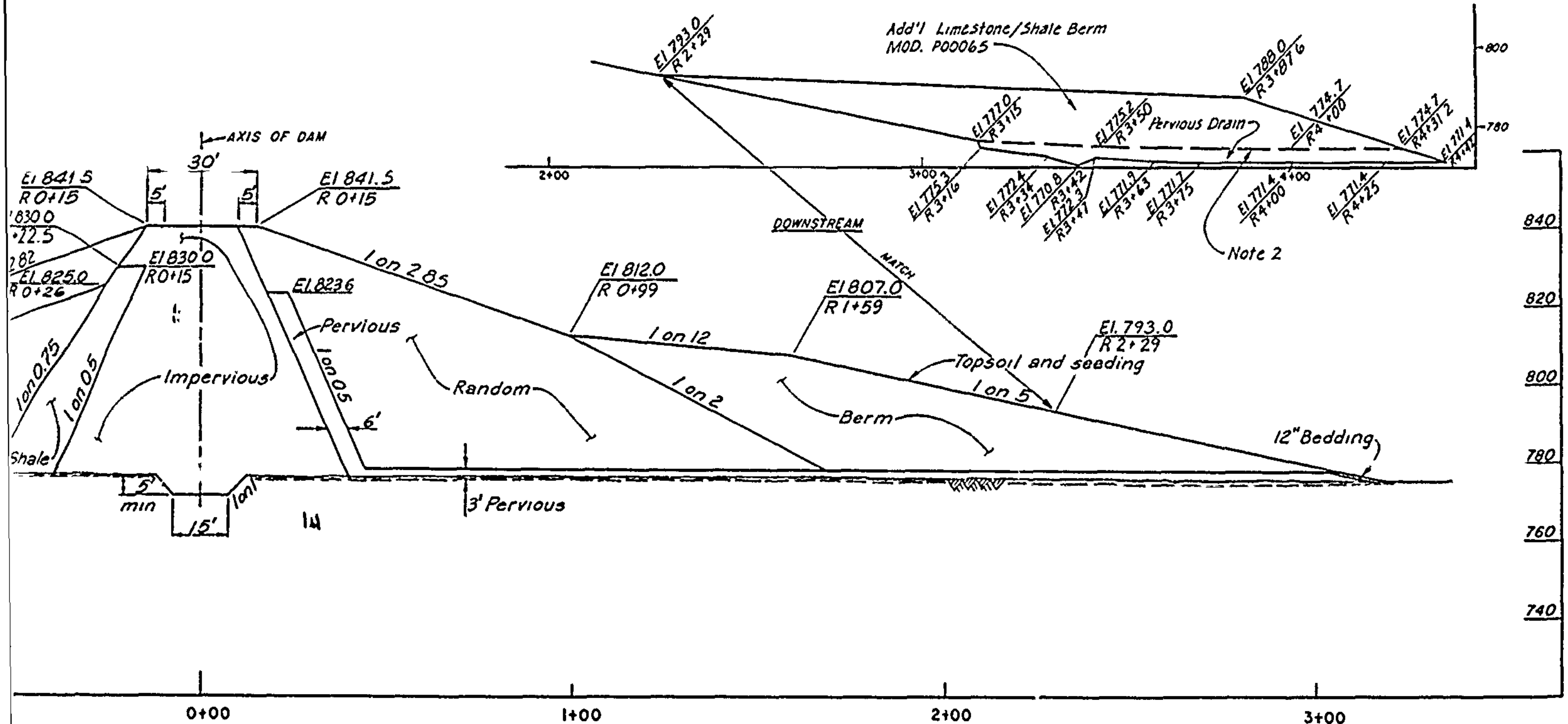


Notes:
1. 6' Thick x 8' Wi
83+00, 85+50,
2. 18" Limestone F
Finger Drains
83+00, 85+00,
50' Wide at 9

VALUE ENGINEERING PAYS



SECTION G B1|B4 STA. 90+00



SECTION F B1|B4 STA. 85+00

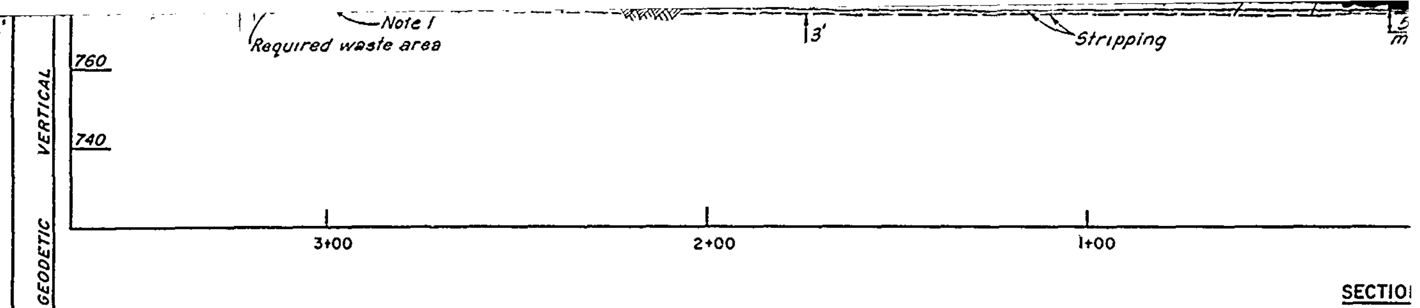
Notes:

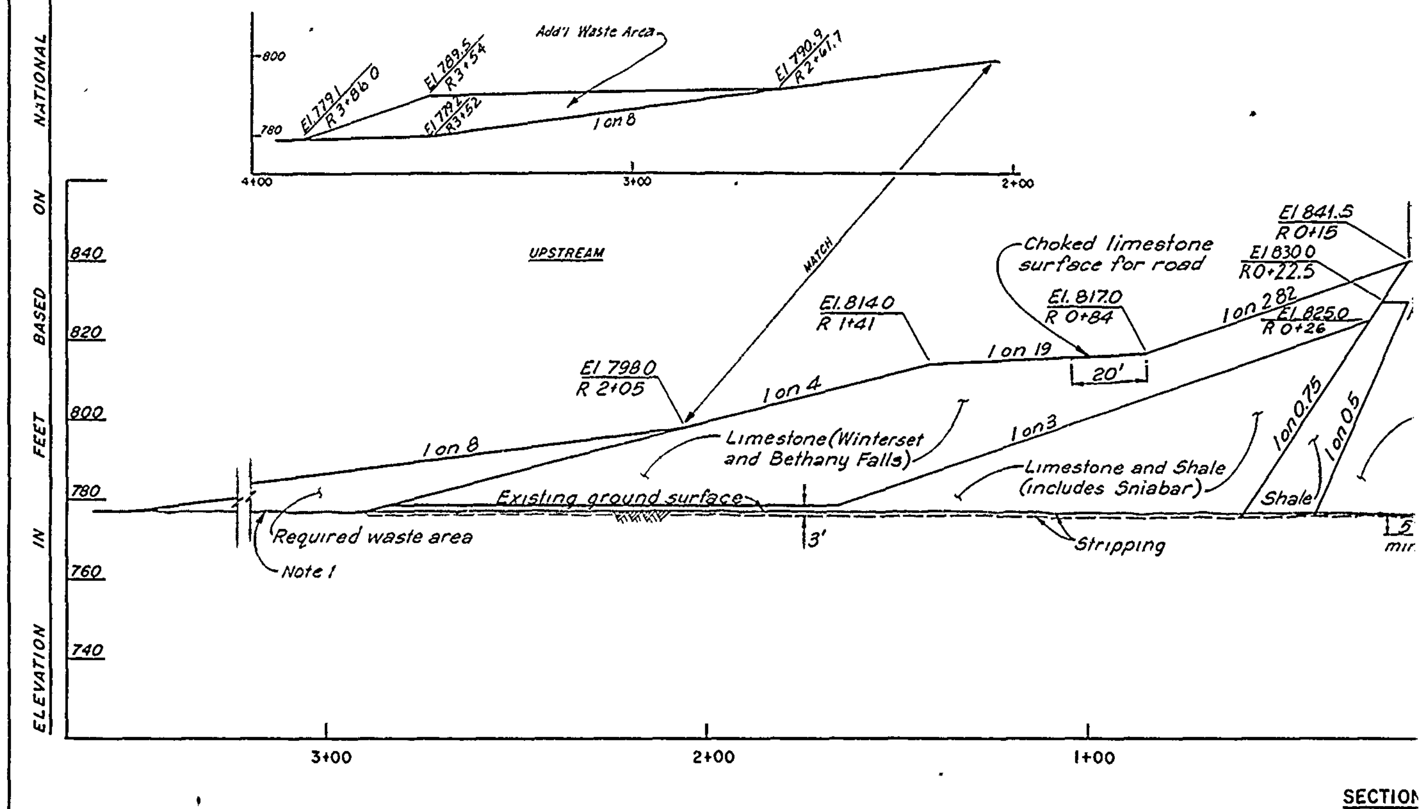
1. *6' Thick x 8' Wide Pervious Finger Drains at Stations 83+00, 85+50, 88+00, 90+50, 93+00 and 95+50.*
2. *18" Limestone Fill with 3' Thick x 20' Wide Pervious Finger Drains at Stations 77+00, 79+00, 81+00, 83+00, 85+00, 87+00, 89+00, 91+00, 93+00 and 50' Wide at 95+00.*

Revisions			
Symbol	Descriptions	Date	Approved

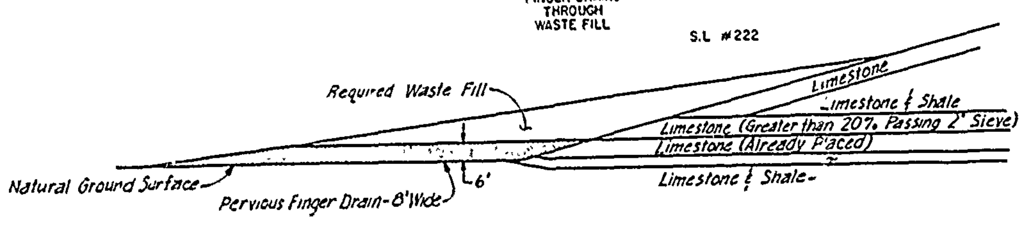
U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

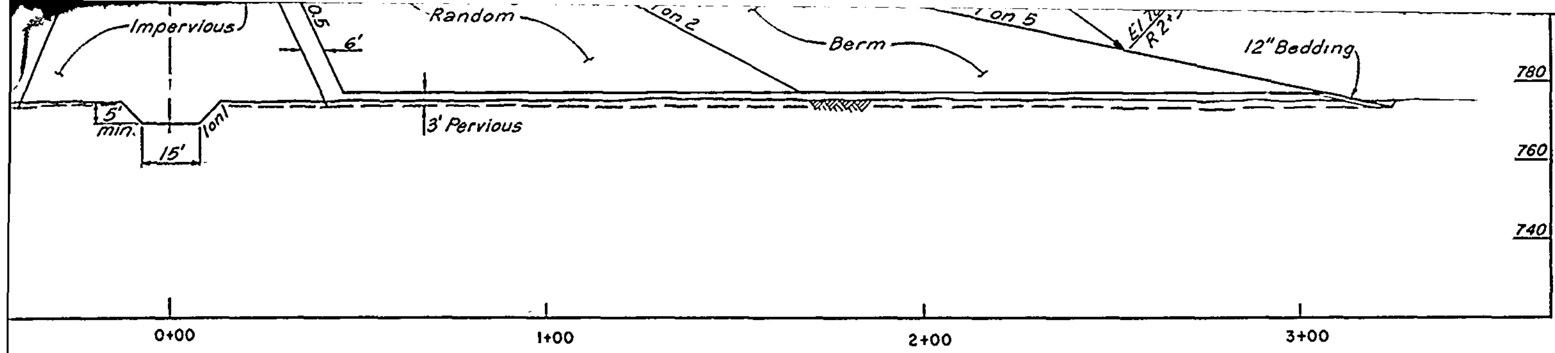
Designed by:	US Army Corps of Engineers — EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by:	EMBANKMENT SECTIONS
Checked by:	



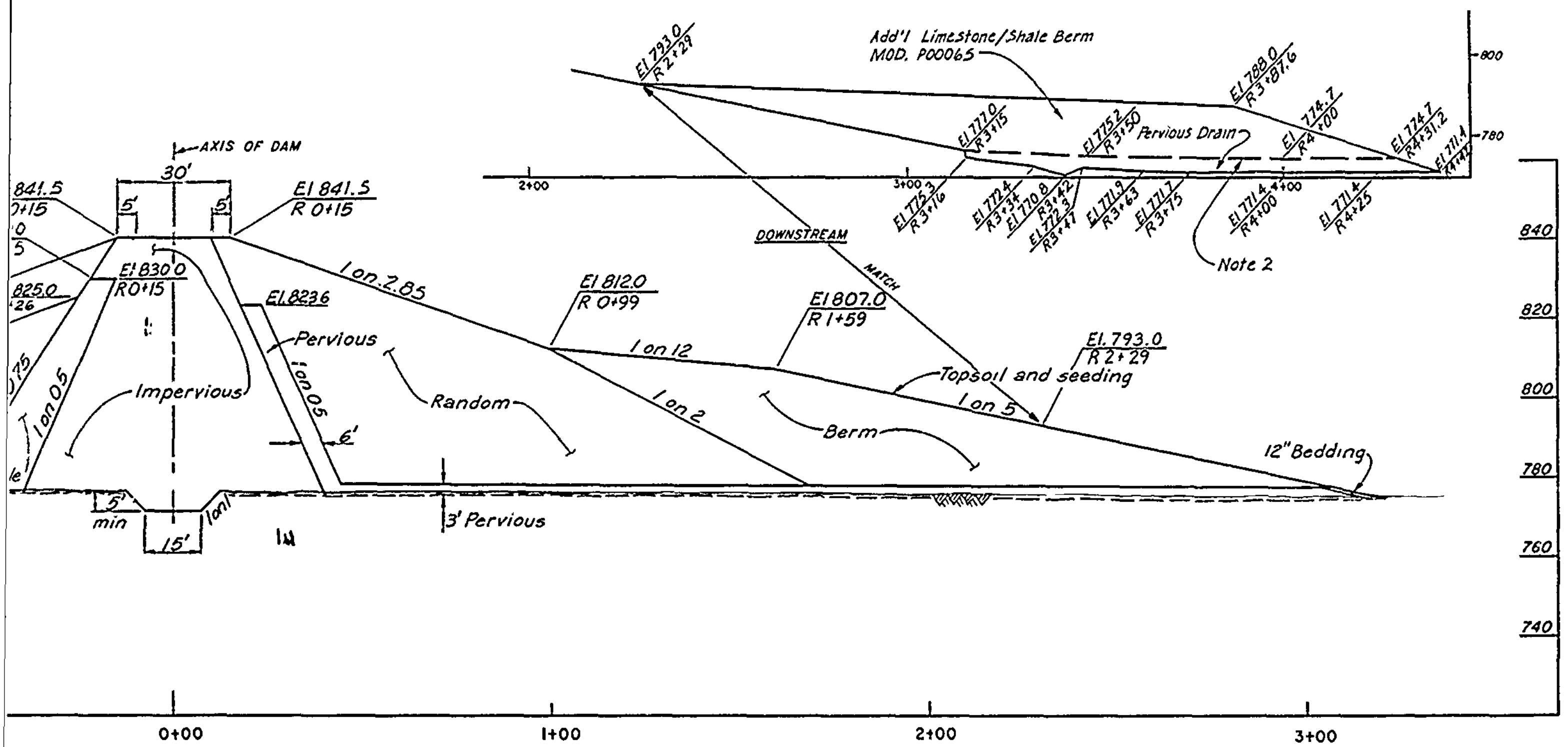


BLUE SPRINGS DAM
FINGER DRAINS
THROUGH
WASTE FILL
S.L #222





SECTION (G / B1 | B4) STA. 90+00



SECTION (F / B1 | B4) STA. 85+00

Notes:

1. 6' Thick x 8' Wide Pervious Finger Drains at Stations 83+00, 85+50, 88+00, 90+50, 93+00 and 95+50.
2. 18" Limestone Fill with 3' Thick x 20' Wide Pervious Finger Drains at Stations 77+00, 79+00, 81+00, 83+00, 85+00, 87+00, 89+00, 91+00, 93+00 and 50' Wide at 95+00.

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:

Drawn by:

Checked by:

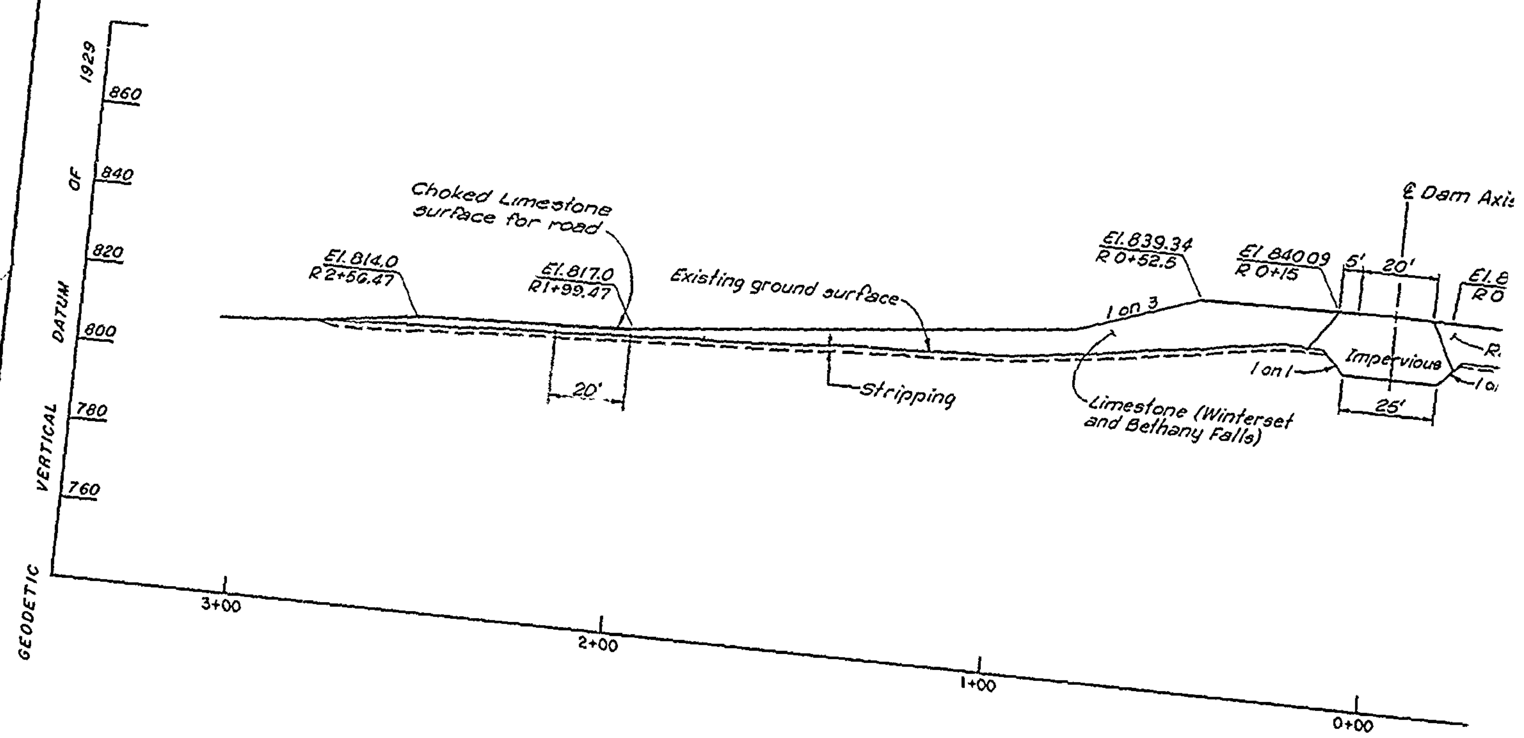
Submitted by:

US Army Corps of Engineers

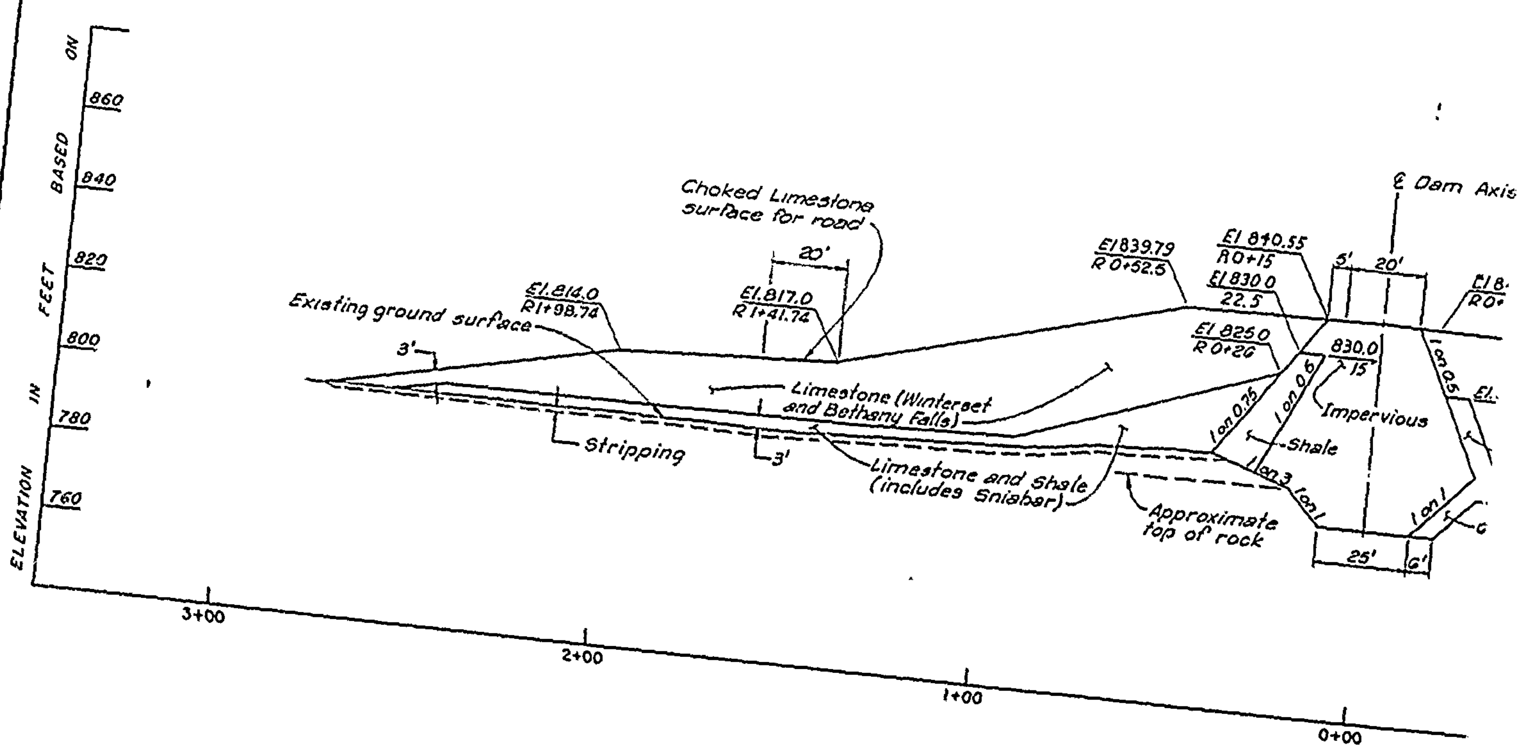
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

EMBANKMENT SECTIONS

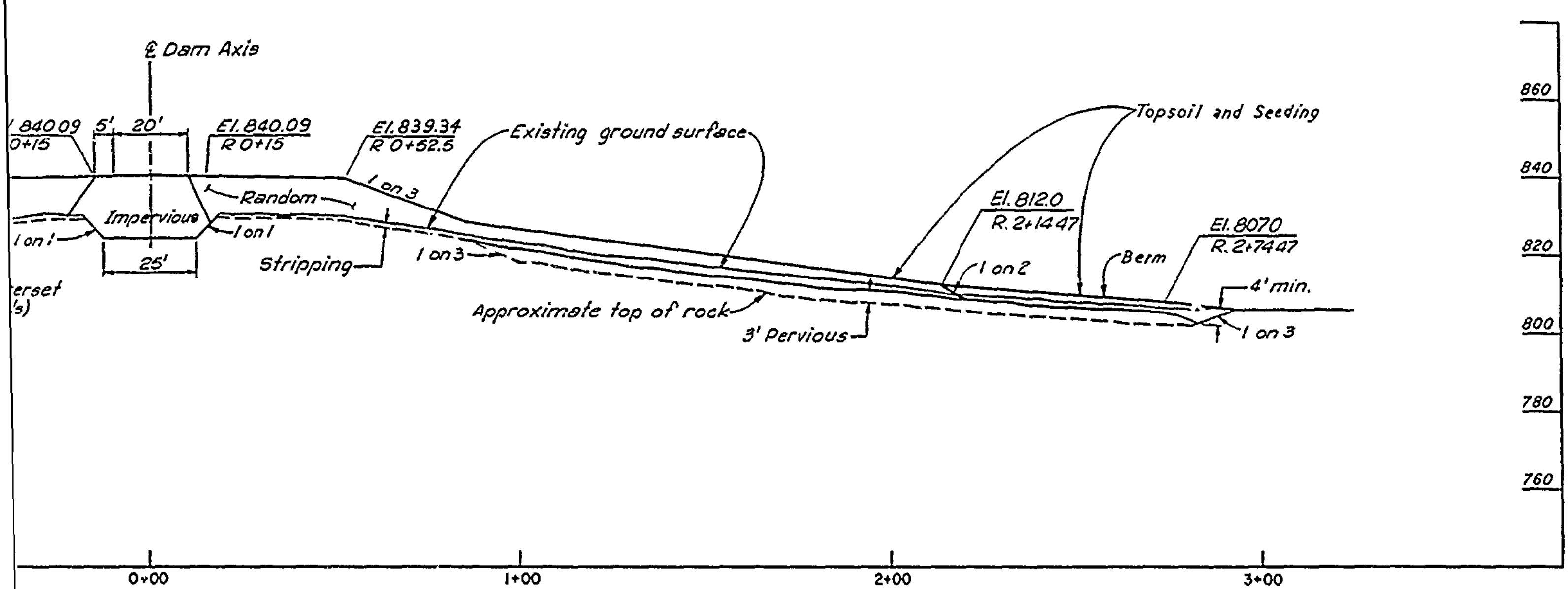
Scale: AS SHOWN	Sheet number: 6		
Date: JUNE 1990			
Dwg No.:		File No.: RBL-2-1226	



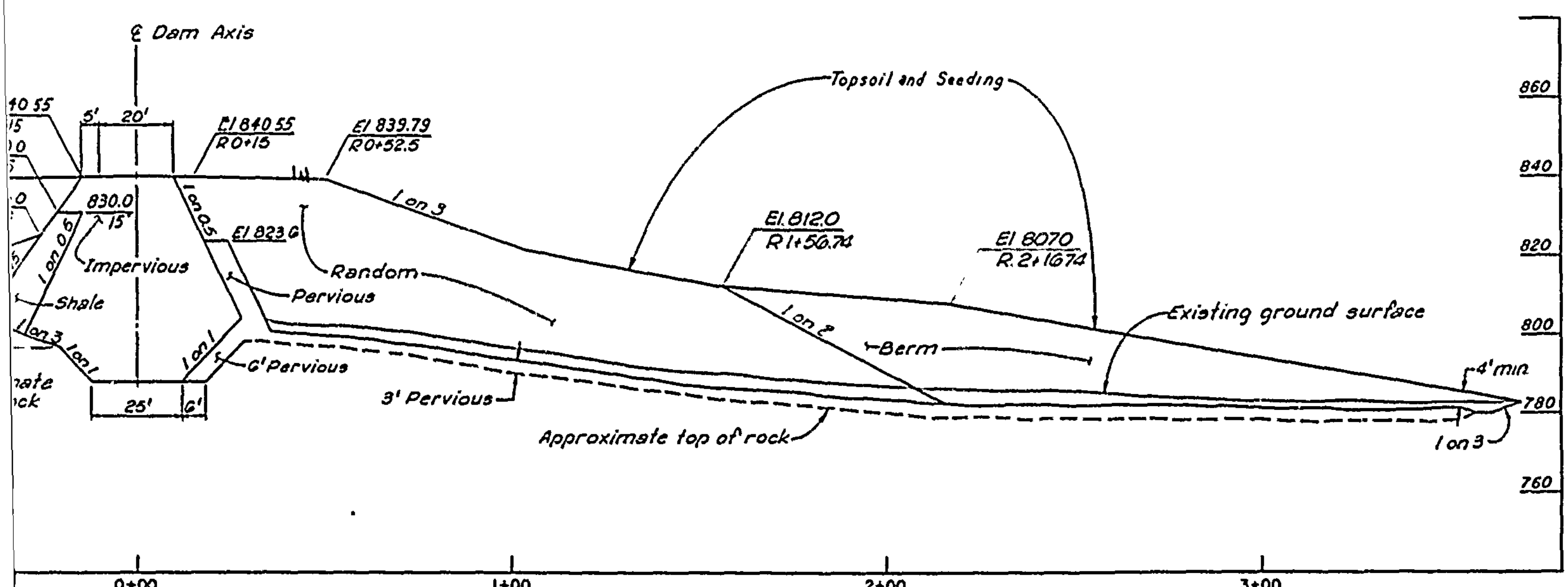
SECTION J 81|85 STA. 99



SECTION H 81|85 STA. 98+



SECTION J (81|85) STA. 99+00



SECTION H (81|85) STA. 98+00

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

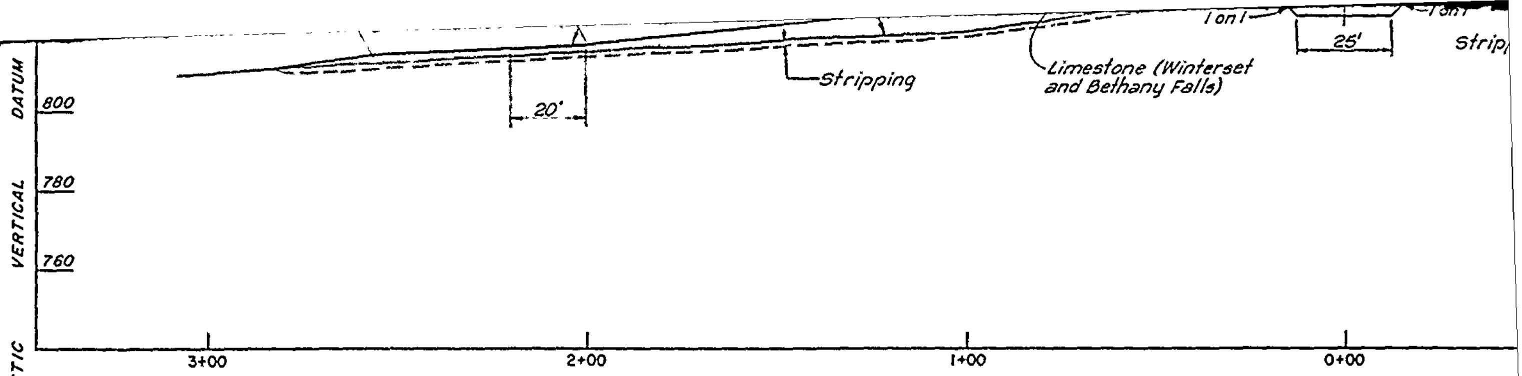
Designed by:

Drawn by:

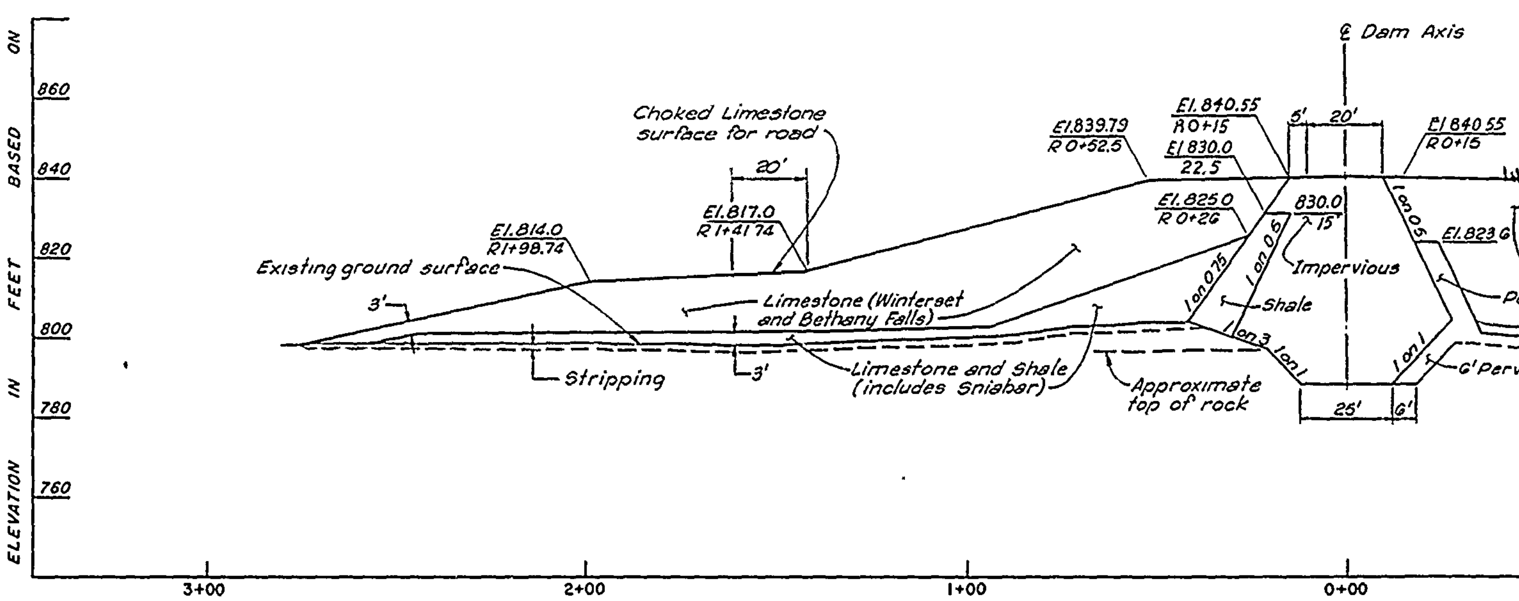
US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

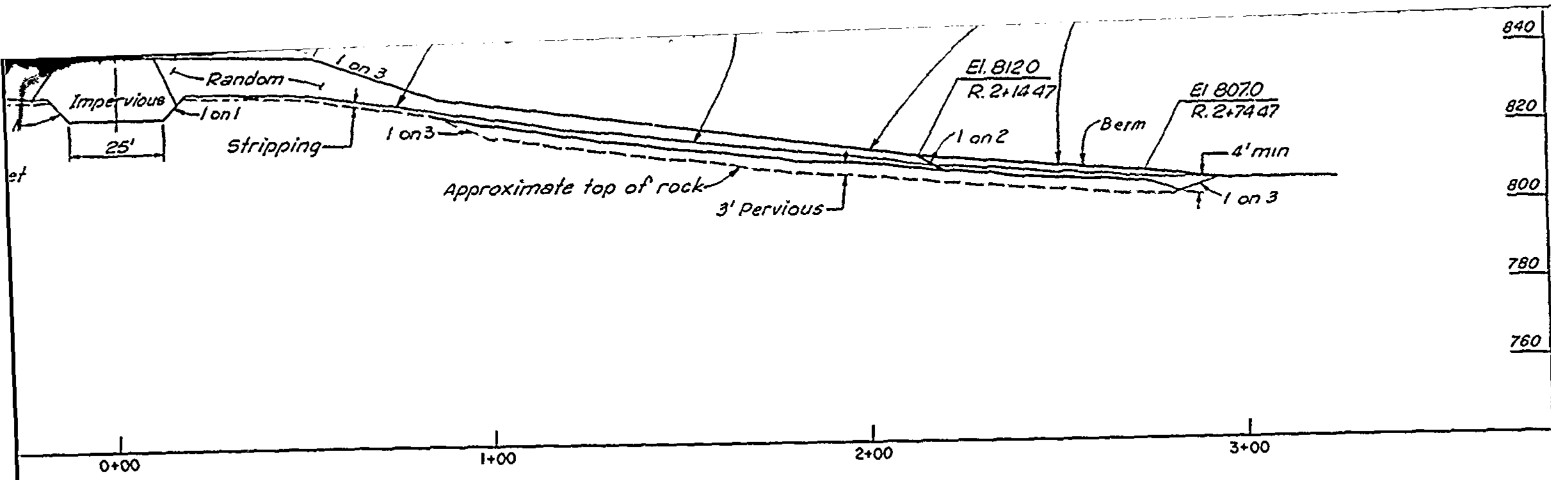
EMBANKMENT SECTIONS



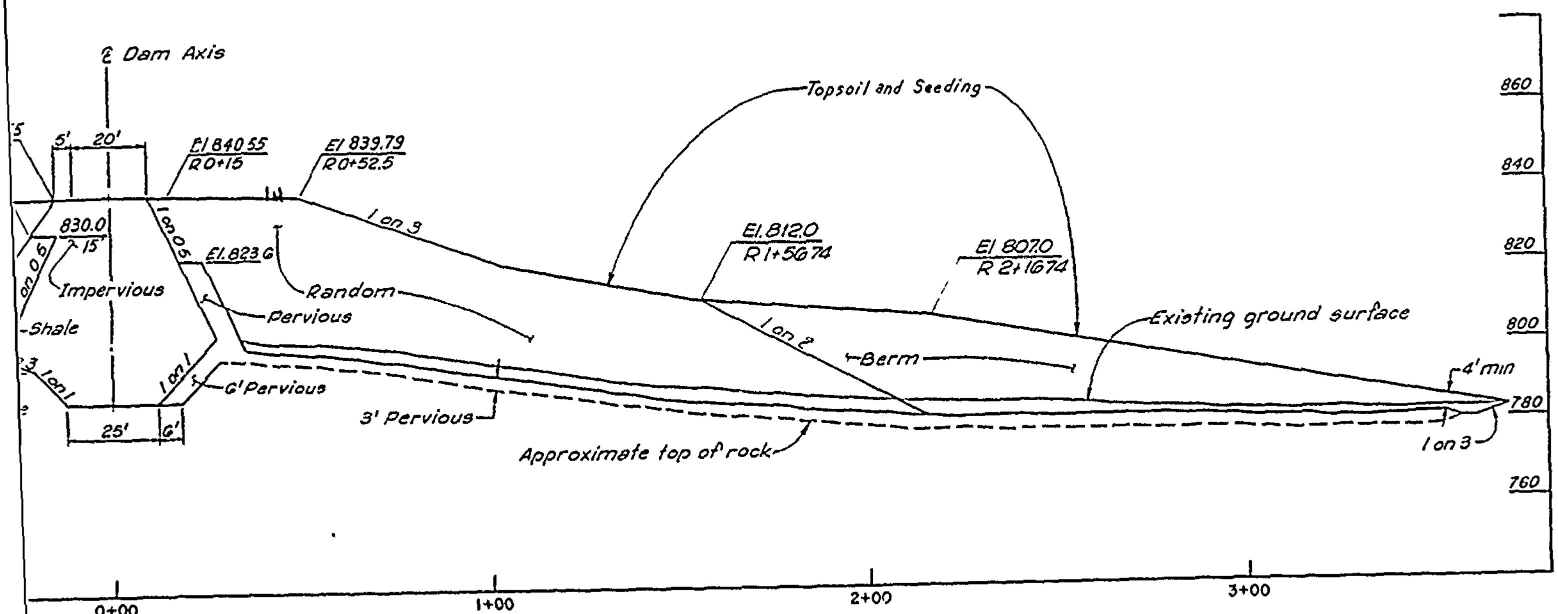
SECTION J 81|85 STA. 99+00



SECTION H 81|85 STA. 98+00



CTION (J) B1|B5 STA. 99+00



TION (H) B1|B5 STA. 98+00

Symbol	Revisions Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:

Drawn by:

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Submitted by:

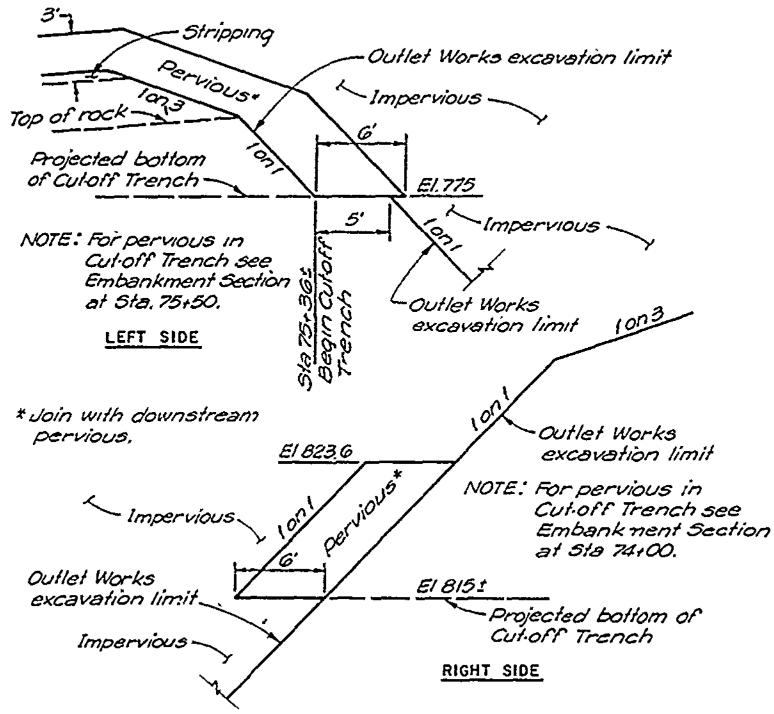
US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

EMBANKMENT SECTIONS

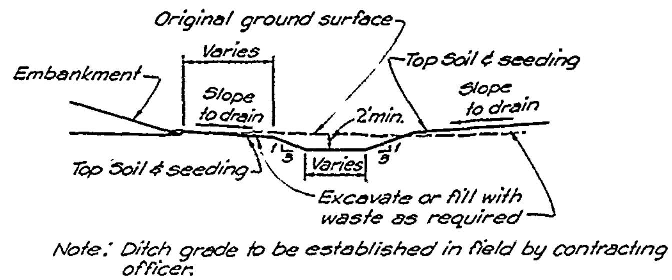
Scale: AS SHOWN
Date: JUNE 1990
Dwg. No.:
Sheet number: 7
File No.: RBL-2-1227

PLATE NO. 7



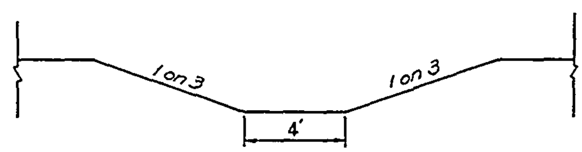
DETAIL SHOWING PERVIOUS TIE-INS BETWEEN OUTLET WORKS AND CUT-OFF TRENCH EXCAVATIONS, AT OUTLET WORKS STA. 50+20± (LOOKING DOWNSTREAM)

Not to Scale



TYPICAL UNLINED TOE DITCH DETAIL

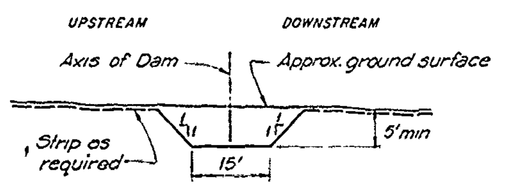
Not to Scale



TYPICAL SECTION

CULVERT DRAINAGE CHANNEL

Nor to Scale

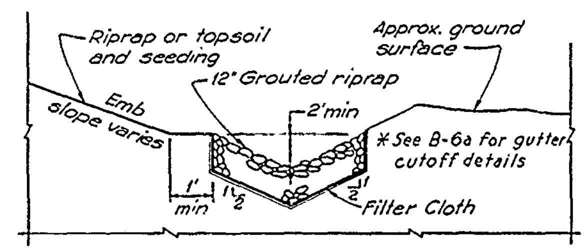


SECTION STA 91+00 (B B7|B6)

INSPECTION TRENCH EXCAVATION

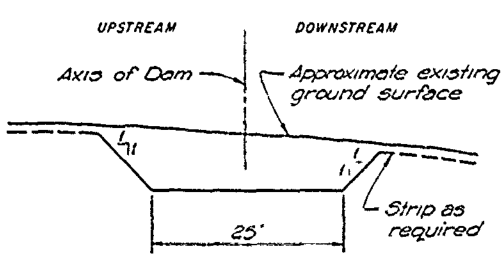
Not to Scale

Note: Inspection trench extends from Sta 77+00± to Sta. 79+00± and from Sta. 80+00± to Sta. 95+00



TYPICAL ABUTMENT GUTTER DITCH DETAIL

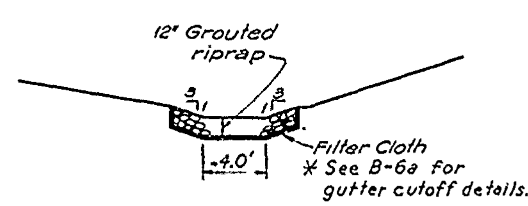
Not to Scale



SECTION

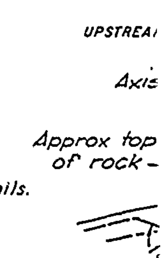
CUTOFF TRENCH

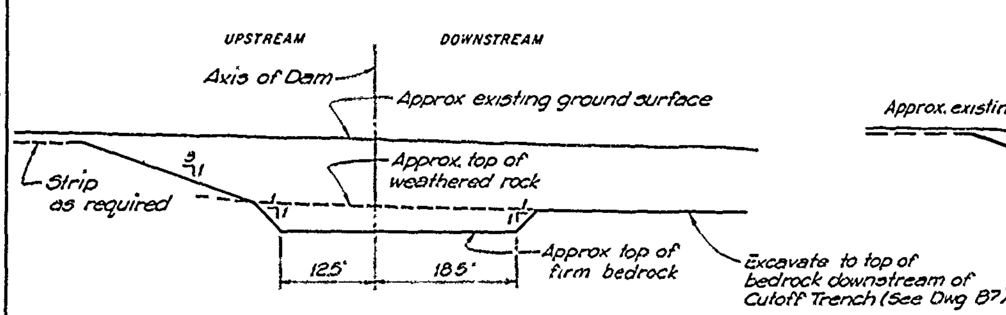
Sta. 73+30 to Sta. 73+88± (Rock excavation)
Sta. 95+25 to Sta. 96+95 (Overburden excavation)



TYPICAL LINED DITCH DETAIL

Not to Scale

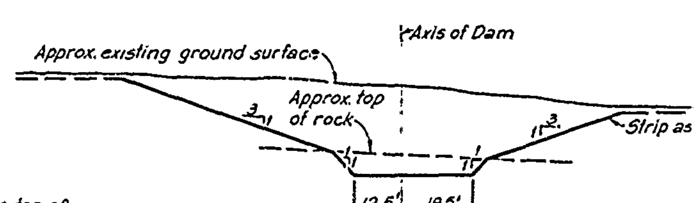




SECTION STA. 98+60 (C B7|B6)

CUTOFF TRENCH

Sta 97+C5 to Sta. 99+47

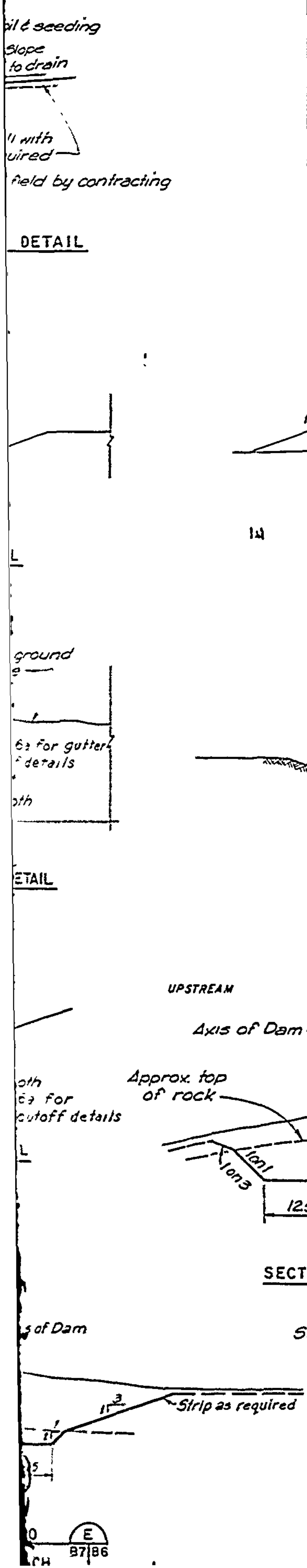


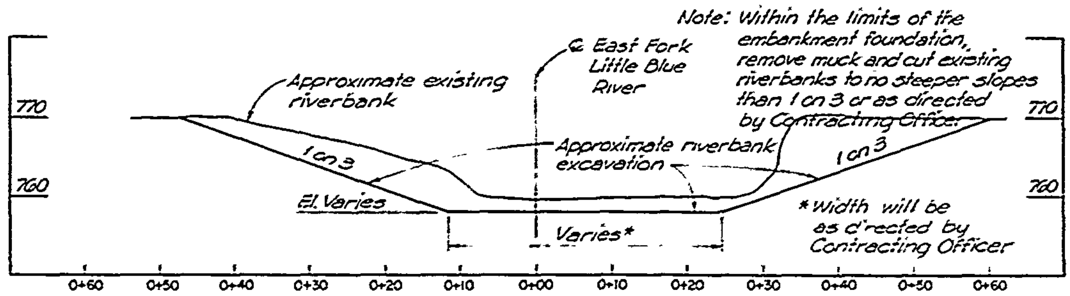
SECTION STA. 76+20 (E B7|B6)

CUTOFF TRENCH

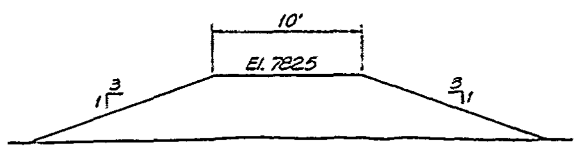
Sta. 75+36 to Sta. 76+30

Not to Scale



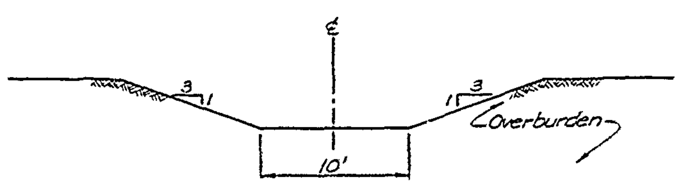


TYPICAL SECTION
RIVERBANK EXCAVATION INCLUDING ABANDONED RIVER CHANNEL AND EXISTING CHANNEL

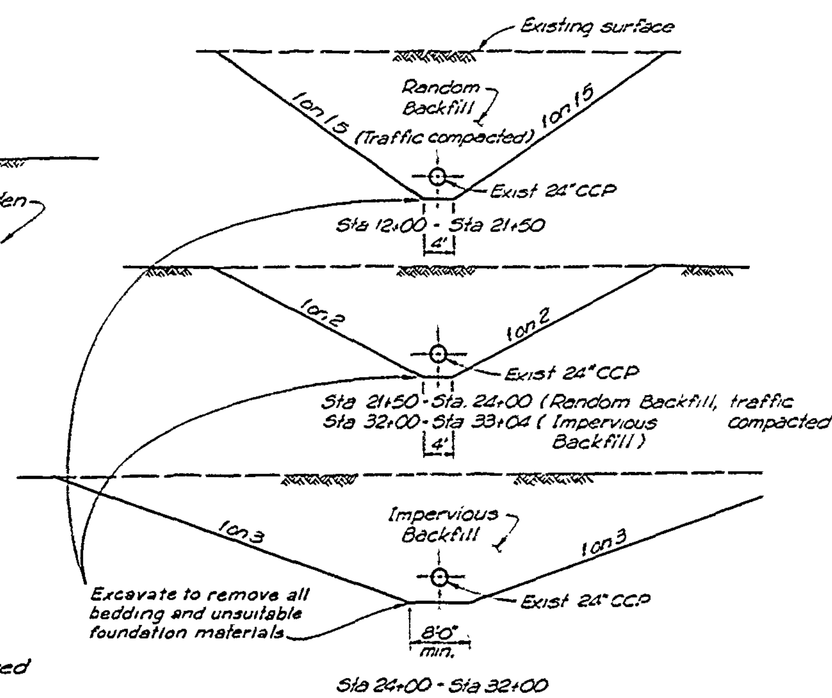


Note: All ditch depths, except as shown, shall be 2 ft. minimums. Depths and grades shall be established in the field by the Contracting Officer.

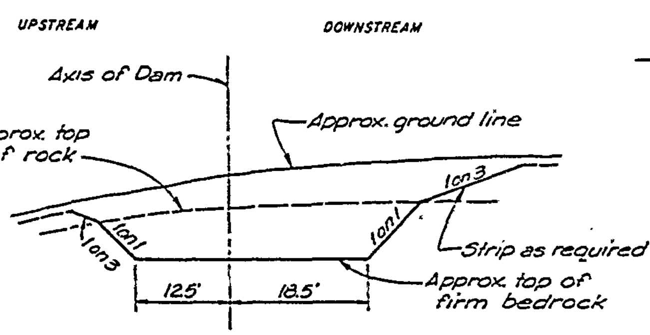
TYPICAL SECTION
PROTECTION DIKE
Not to Scale



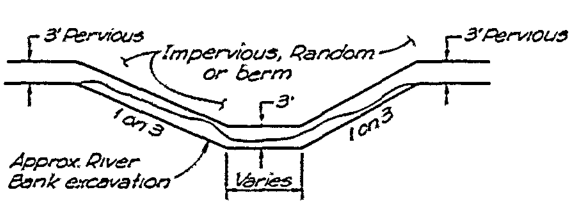
CROSS - SECTION
APPROACH AND OUTLET CHANNELS
Not to Scale



EXCAVATION OF EXISTING TEMPORARY SEWER
Not to Scale
See Profile Drawing B13.



SECTION A B7|86
CUTOFF TRENCH
Sta. 73+88± to Sta. 74+22±



SECTION ACROSS ABANDONED RIVER

Revisions			
Symbol	Descriptions	Date	Approved

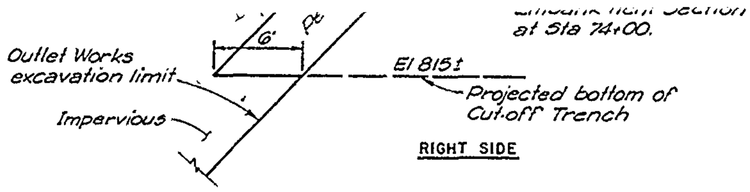
U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:
Drawn by:
Checked by:

US Army Corps of Engineers

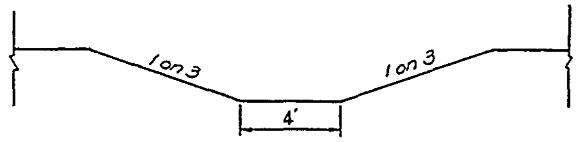
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

EMBANKMENT CONSTRUCTION DETAILS



DETAIL SHOWING PERVIOUS TIE-INS BETWEEN OUTLET WORKS AND CUT-OFF TRENCH EXCAVATIONS, AT OUTLET WORKS STA. 50+20± (LOOKING DOWNSTREAM)

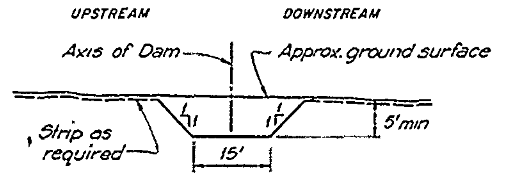
Not to Scale



TYPICAL SECTION

CULVERT DRAINAGE CHANNEL

Not to Scale

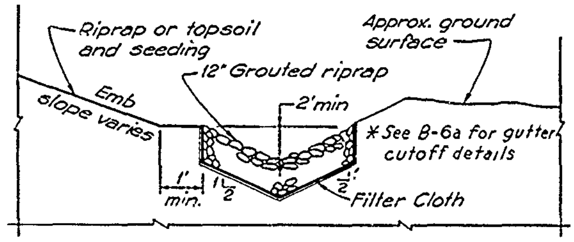


SECTION STA. 91+00 (B) B7|B6

INSPECTION TRENCH EXCAVATION

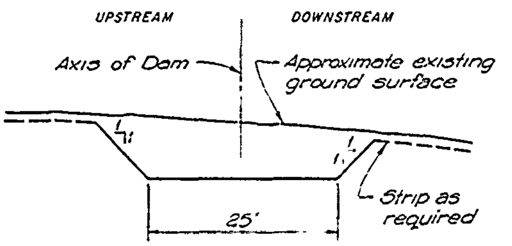
Not to Scale

Note: Inspection trench extends from Sta 77+00± to Sta. 79+00± and from Sta 80+00± to Sta. 95+00



TYPICAL ABUTMENT GUTTER DITCH DETAIL

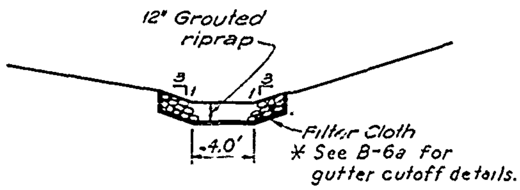
Not to Scale



SECTION

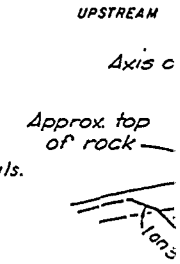
CUTOFF TRENCH

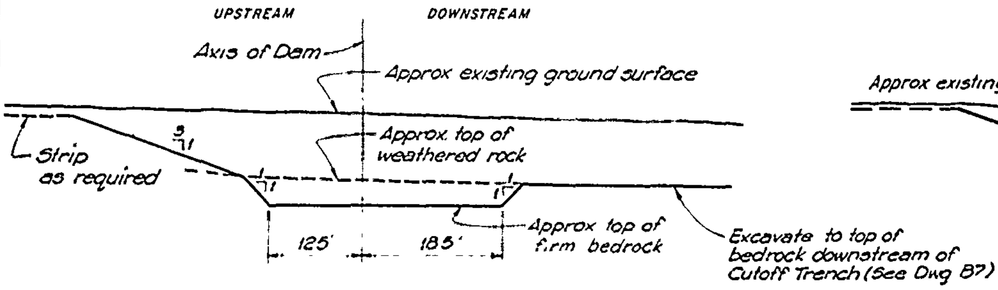
Sta 73+30 to Sta 73+88± (Rock excavation)
Sta 95+25 to Sta 96+95 (Overburden excavation)



TYPICAL LINED DITCH DETAIL

Not to Scale

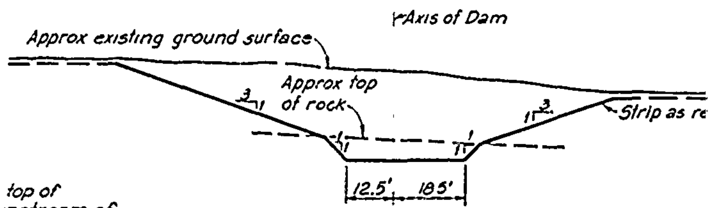




SECTION STA. 98+60 (C) B7|B6

CUTOFF TRENCH

Sta 97+05 to Sta 99+47
Not to Scale

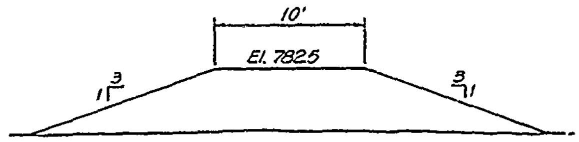


SECTION STA. 76+20 (E) B7|B6

CUTOFF TRENCH

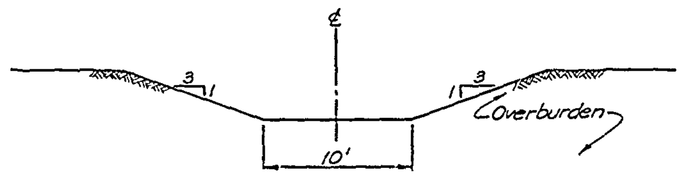
Sta. 75+36 to Sta. 76+30
Not to Scale

RIVER CHANNEL AND EXISTING CHANNEL

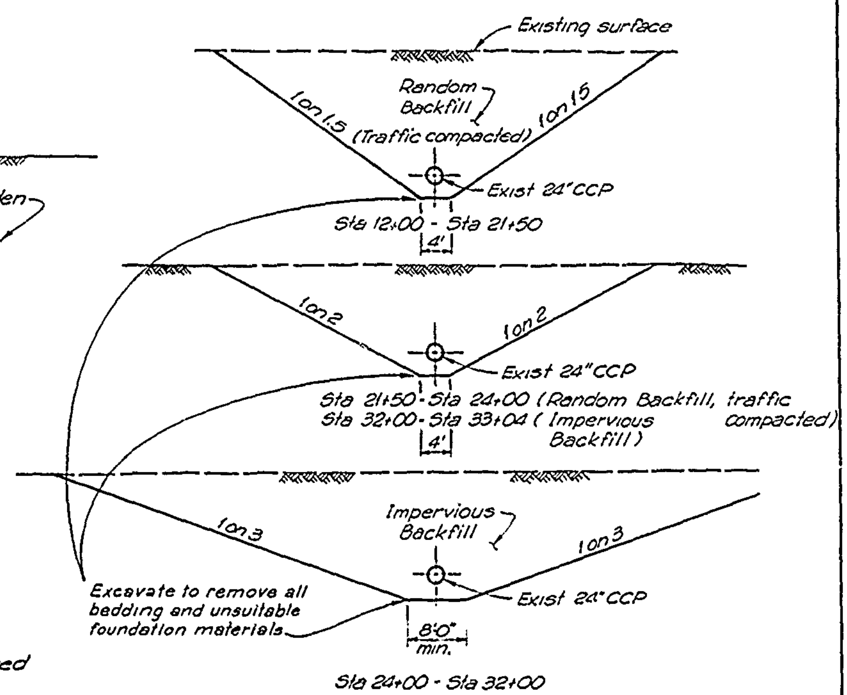


TYPICAL SECTION
PROTECTION DIKE
Not to Scale

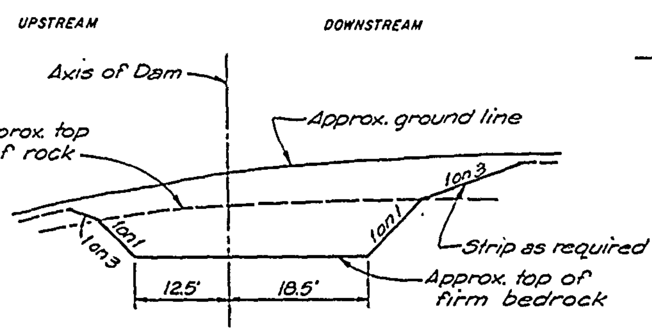
Note: All ditch depths, except as shown, shall be 2 ft. minimums. Depths and grades shall be established in the field by the Contracting Officer.



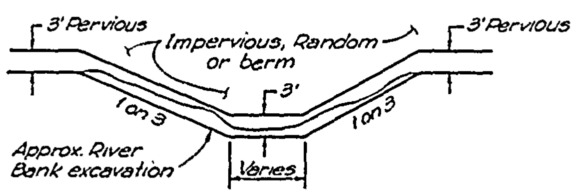
CROSS - SECTION
APPROACH AND OUTLET CHANNELS
Not to Scale



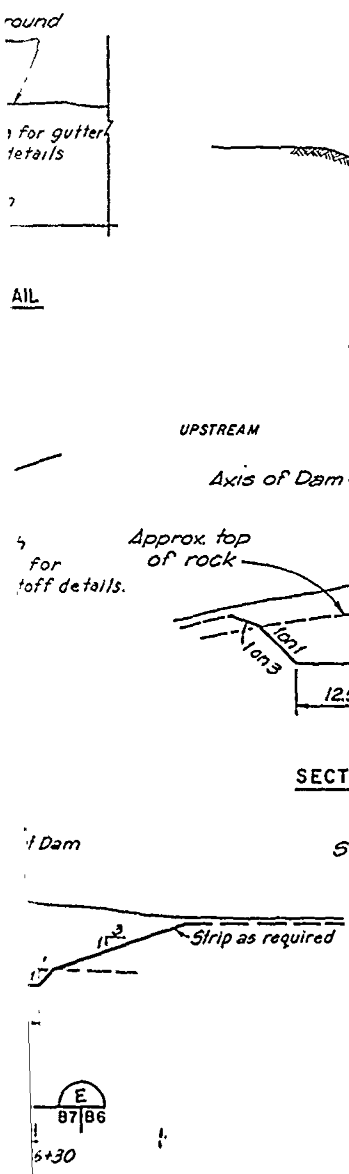
EXCAVATION OF EXISTING TEMPORARY SEWER
Not to Scale
See Profile Drawing B13.



SECTION (A / B7 | B6)
CUTOFF TRENCH
Sta 73+88± to Sta 74+22±



SECTION ACROSS ABANDONED RIVER
CHANNEL AND EXISTING CHANNEL SHOWING
PLACEMENT OF PERVIOUS
Not to Scale

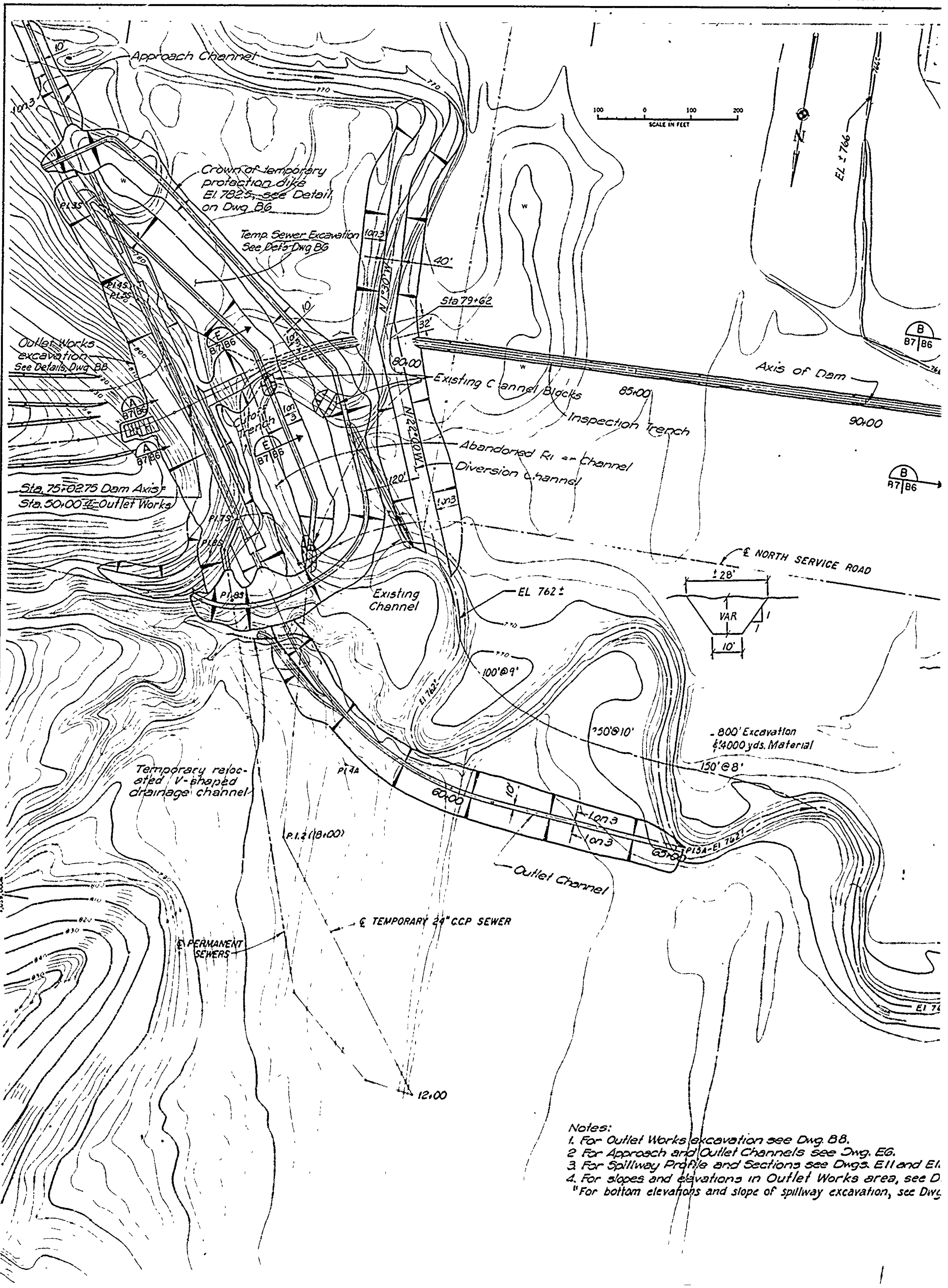


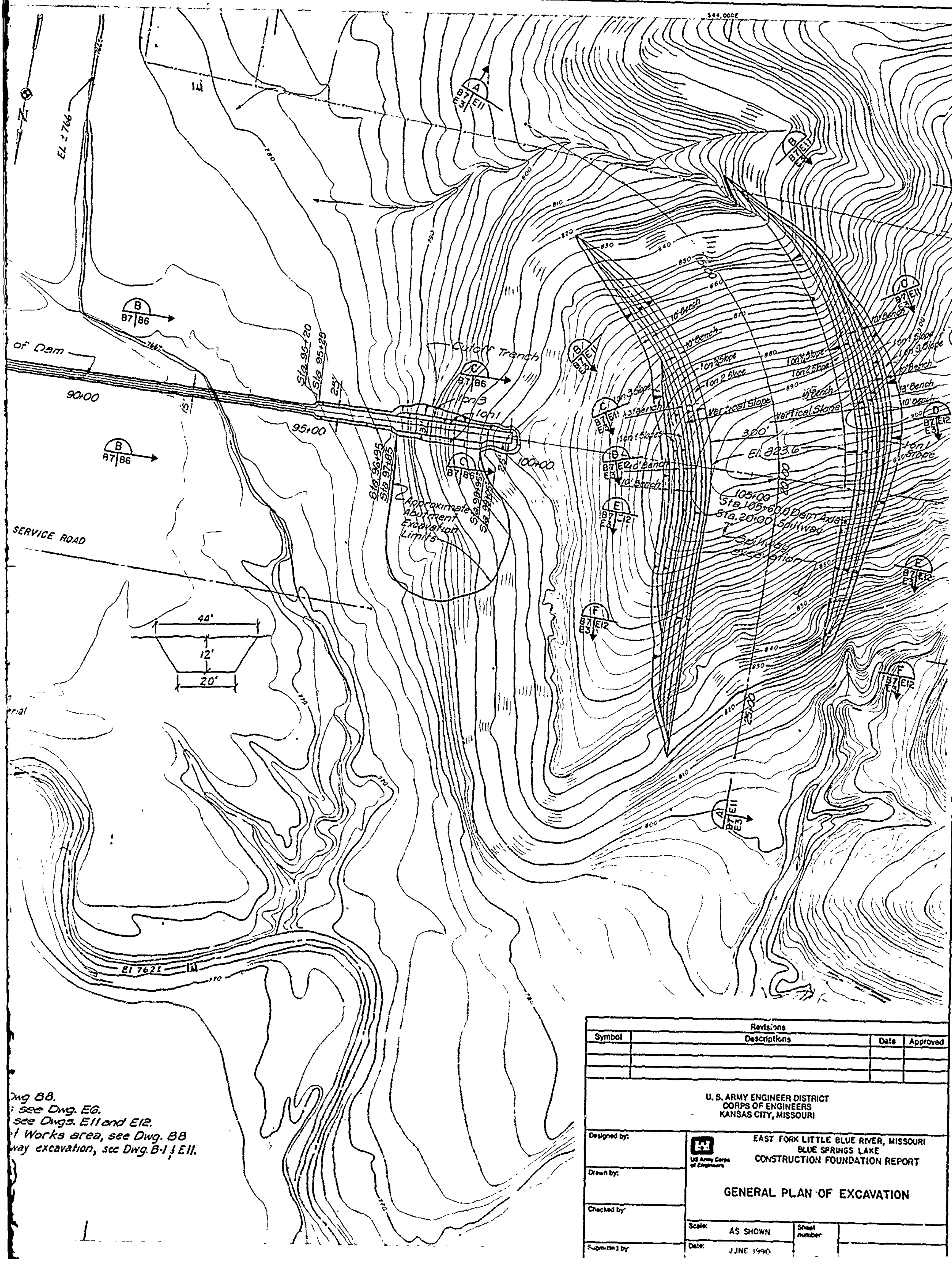
Revisions			
Symbol	Descriptions	Date	Approved

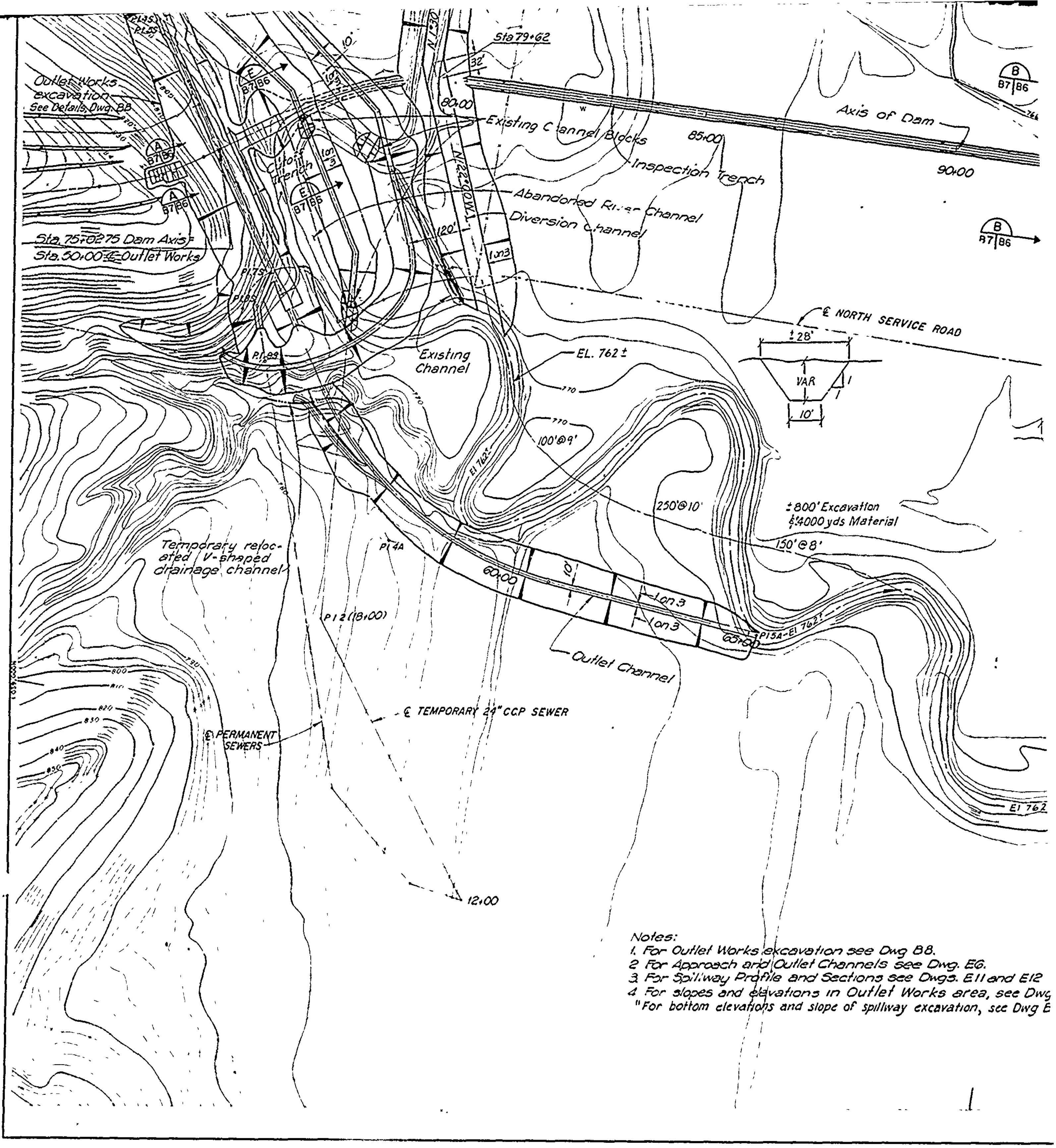
U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT		
Drawn by:	EMBANKMENT CONSTRUCTION DETAILS		
Checked by:	Scale: AS SHOWN	Sheet number	
Submitted by:	Date: JUNE 1990	8	
	Dwg No.:		File No. RBL-2-1228

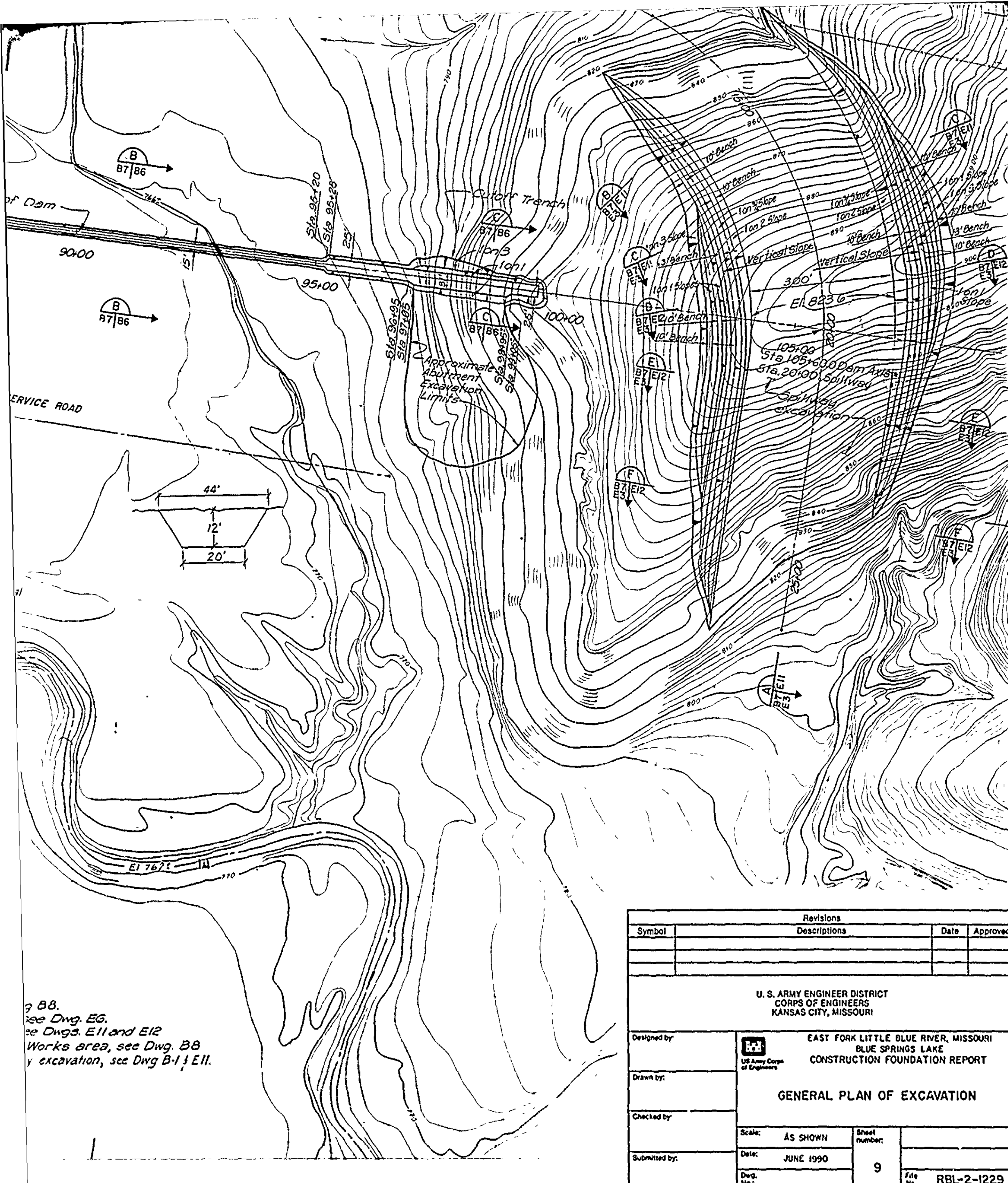
PLATE NO. 8


Approach Channel
Crown of temporary protection dike El. 782.5, see Detail on Dwg B6
Temp. Sewer Excavation See Det. Dwg B6
SCALE IN FEET
Sta 79+62
Outlet Works excavation See Details, Dwg B8
Existing Channel Blocks
Inspection Trench
Cutoff Trench
Abandoned River Channel
Diversion Channel
Axis of Dam
Sta. 75+02.75 Dam Axis
Sta. 50+00 ℄ Outlet Works
℄ NORTH SERVICE ROAD
Existing Channel
EL 762±
EL ±766
800' Excavation
4000 yds. Material
Temporary relocated V-shaped drainage channel
Outlet Channel
℄ TEMPORARY 24" CCP SEWER
℄ PERMANENT SEWERS
P.I.2 (18+00)
12+00
Notes:
1. For Outlet Works excavation see Dwg. B8.
2. For Approach and Outlet Channels see Dwg. E6.
3. For Spillway Profile and Sections see Dwgs. E11 and E1
4. For slopes and elevations in Outlet Works area, see D
"For bottom elevations and slope of spillway excavation, see Dwg


Cutoff Trench
Approximate Abutment Excavation Limits
Sta. 105+60.00 Dam Axis
Sta. 20+00 Spillway
Spillway excavation
El 823.6
SERVICE ROAD
EL ±766
El 762±
90+00
95+00
100+00
105+00
44'
12'
20'
Dwg B8.
see Dwg. E6.
see Dwgs. E11 and E12.
Works area, see Dwg. B8
way excavation, see Dwg. B-1 & E11.
Revisions
Symbol
Descriptions
Date
Approved
U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI
Designed by:
Drawn by:
Checked by:
Submitted by:
US Army Corps of Engineers
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT
GENERAL PLAN OF EXCAVATION
Scale: AS SHOWN
Sheet number
Date: JUNE 1990



Sta 79+62
Outlet Works excavation See Details, Dwg. B8
Existing Channel Blocks
Inspection Trench
Axis of Dam
Abandoned River Channel
Diversion Channel
Sta. 75+02.75 Dam Axis
Sta. 50+00 ℄ Outlet Works
℄ NORTH SERVICE ROAD
Existing Channel
EL. 762 ±
VAR
100'@9'
250'@10'
±800' Excavation &±4000 yds Material
150'@8'
Temporary relocated V-shaped drainage channel
Outlet Channel
℄ TEMPORARY 24" CCP SEWER
℄ PERMANENT SEWERS
12+00
Notes:
1. For Outlet Works excavation see Dwg B8.
2 For Approach and Outlet Channels see Dwg. E6.
3. For Spillway Profile and Sections see Dwgs. E11 and E12
4. For slopes and elevations in Outlet Works area, see Dwg
"For bottom elevations and slope of spillway excavation, see Dwg E



Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:

US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

Drawn by:

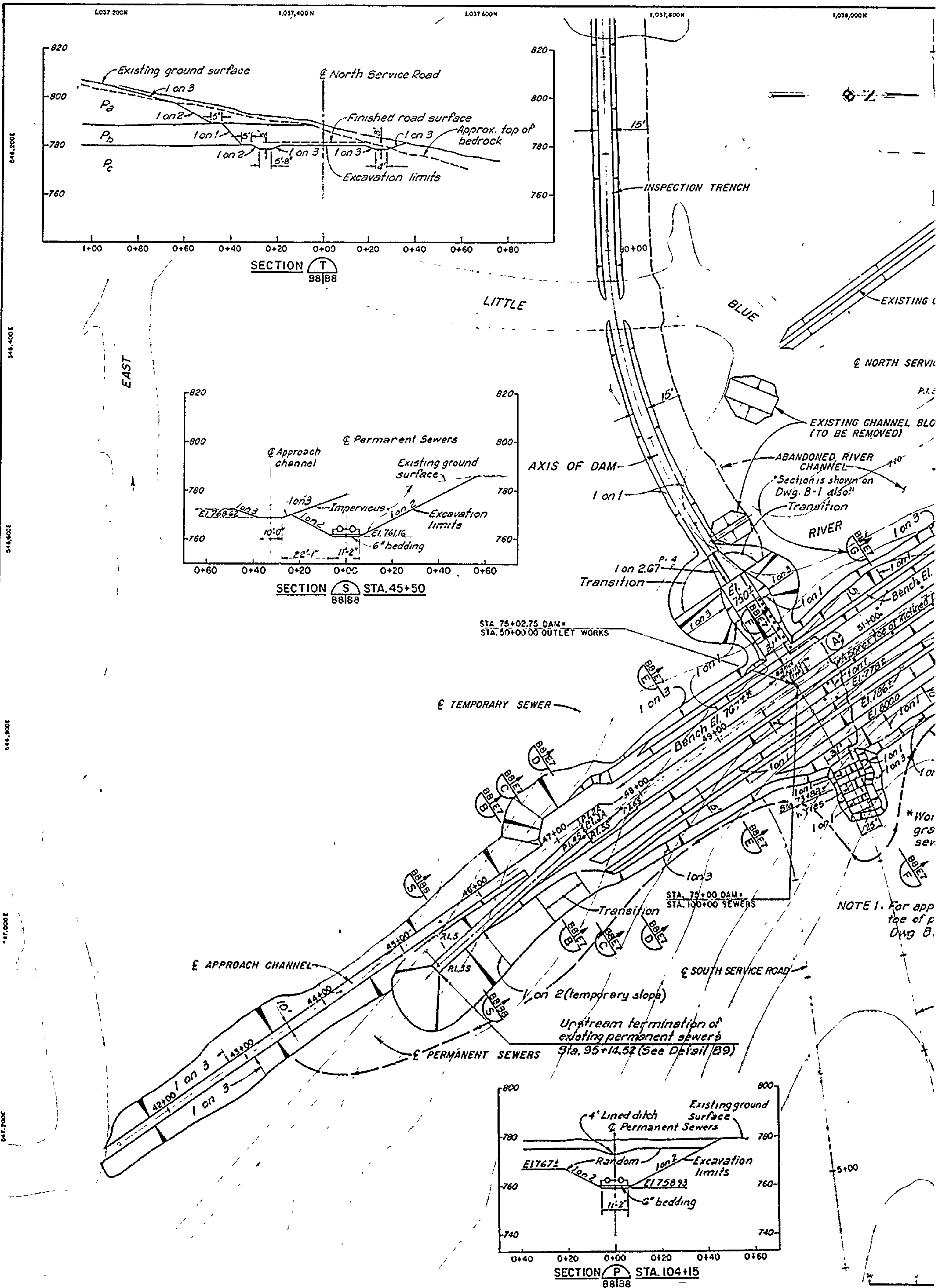
GENERAL PLAN OF EXCAVATION

Checked by:

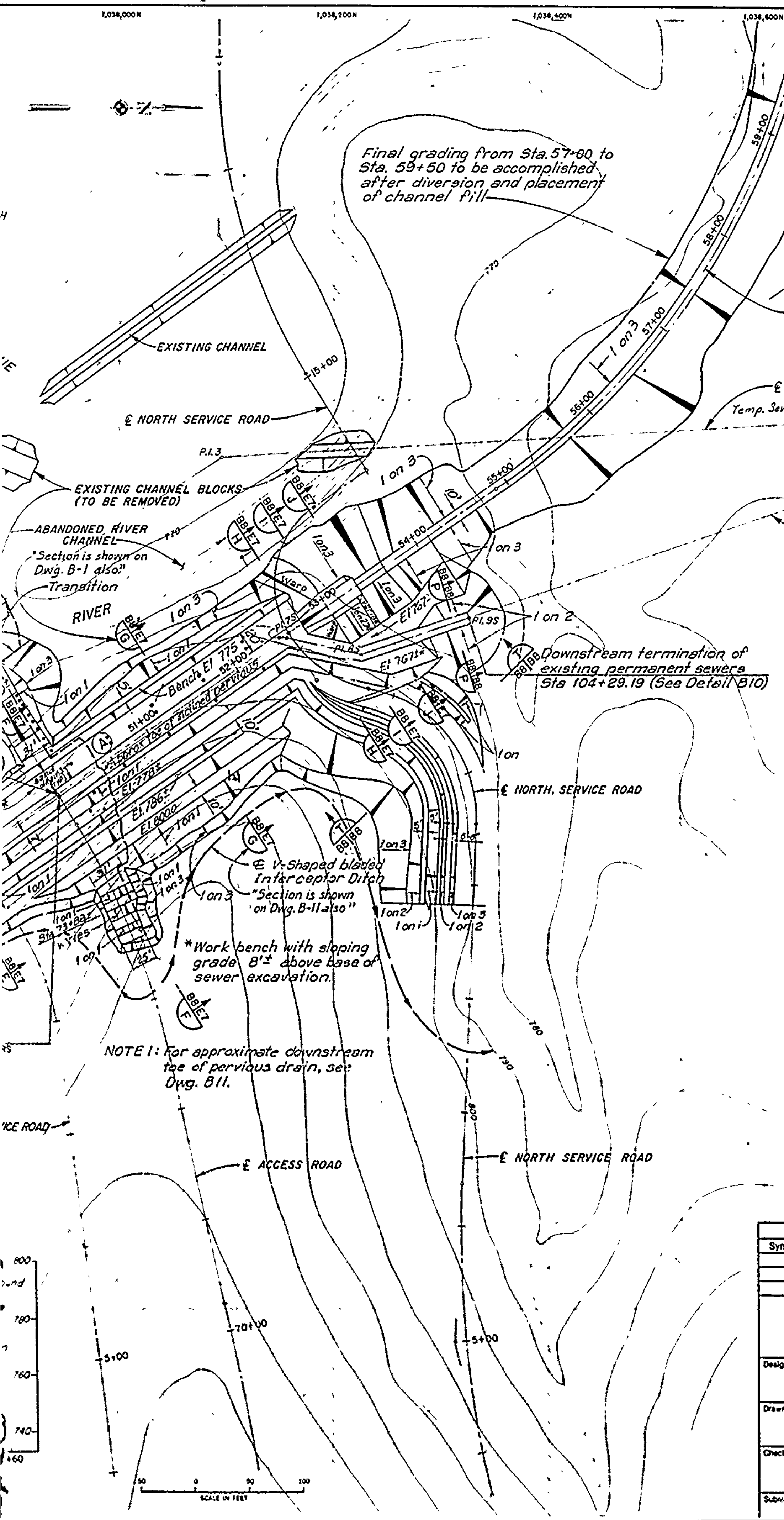
Submitted by:

Scale: AS SHOWN
Date: JUNE 1990
Sheet number: 9
Dwg. No.:
File No. RBL-2-1229

PLATE NO. 9



SECTION T 88|88
Existing ground surface
℄ North Service Road
Finished road surface
Approx. top of bedrock
Excavation limits
LITTLE
BLUE
RIVER
EAST
INSPECTION TRENCH
EXISTING CHANNEL BLO
(TO BE REMOVED)
ABANDONED RIVER CHANNEL
Section is shown on Dwg. B-1 also.
AXIS OF DAM
SECTION S STA. 45+50 88|88
℄ Approach channel
℄ Permanent Sewers
Existing ground surface
Impervious
Excavation limits
6" bedding
STA. 75+02.75 DAM=
STA. 50+00.00 OUTLET WORKS
℄ TEMPORARY SEWER
℄ APPROACH CHANNEL
℄ SOUTH SERVICE ROAD
1 on 2 (temporary slope)
Upstream termination of existing permanent sewers Sta. 95+14.52 (See Detail B9)
℄ PERMANENT SEWERS
STA. 75+00 DAM=
STA. 100+00 SEWERS
NOTE 1. For app
SECTION P STA. 104+15 88|88
4' Lined ditch
℄ Permanent Sewers
Existing ground surface
Random
Excavation limits
El 767±
El 758.93
6" bedding



SAND DRAIN INSTALLATION SCHEDULE

STATION	RANGE	APPROXIMATE TOP ELEVATION	BOTTOM ELEVATION	APPROXIMATE DEPTH
78+08 5	15 50	767	746	21'
75+17 5	15 50	767	746	21
75+27 5	15 50	768 5	746	22 5
75+37 5	15 50	775	744	31'
75+47 5	15 50	775	744	31
75+57 5	15 50	775	744	31
75+67 5	15 50	769 7	744	25 7
75+77 5	15 50	763 4	744	19 4
75+87 5	15 50	757 2	744	13 2'
75+97 5	15 50	750 9	744	6 9'
75+12 5	65 50	767	746	21
75+17 5	65 50	767	746	21
75+12 5	115 50	767	747	20
75+17 5	115 50	767	747	20
75+12 5	165 50	767	747	20
75+17 5	165 50	767	747	20
75+12 5	215 50	767	747	20
75+17 5	215 50	767	747	20
74+91	15 50	767	746	21
74+82	25 50	770	747	23
74+72	15 50	778	747	28
74+72	25 50	778	747	31
74+88 5	65 50	767	747	20
74+88 5	115 50	767	747	20
74+88 5	165 50	767	747	20
74+88 5	215 50	767	747	20

Revisions			
Symbol	Descriptions	Date	Appro

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

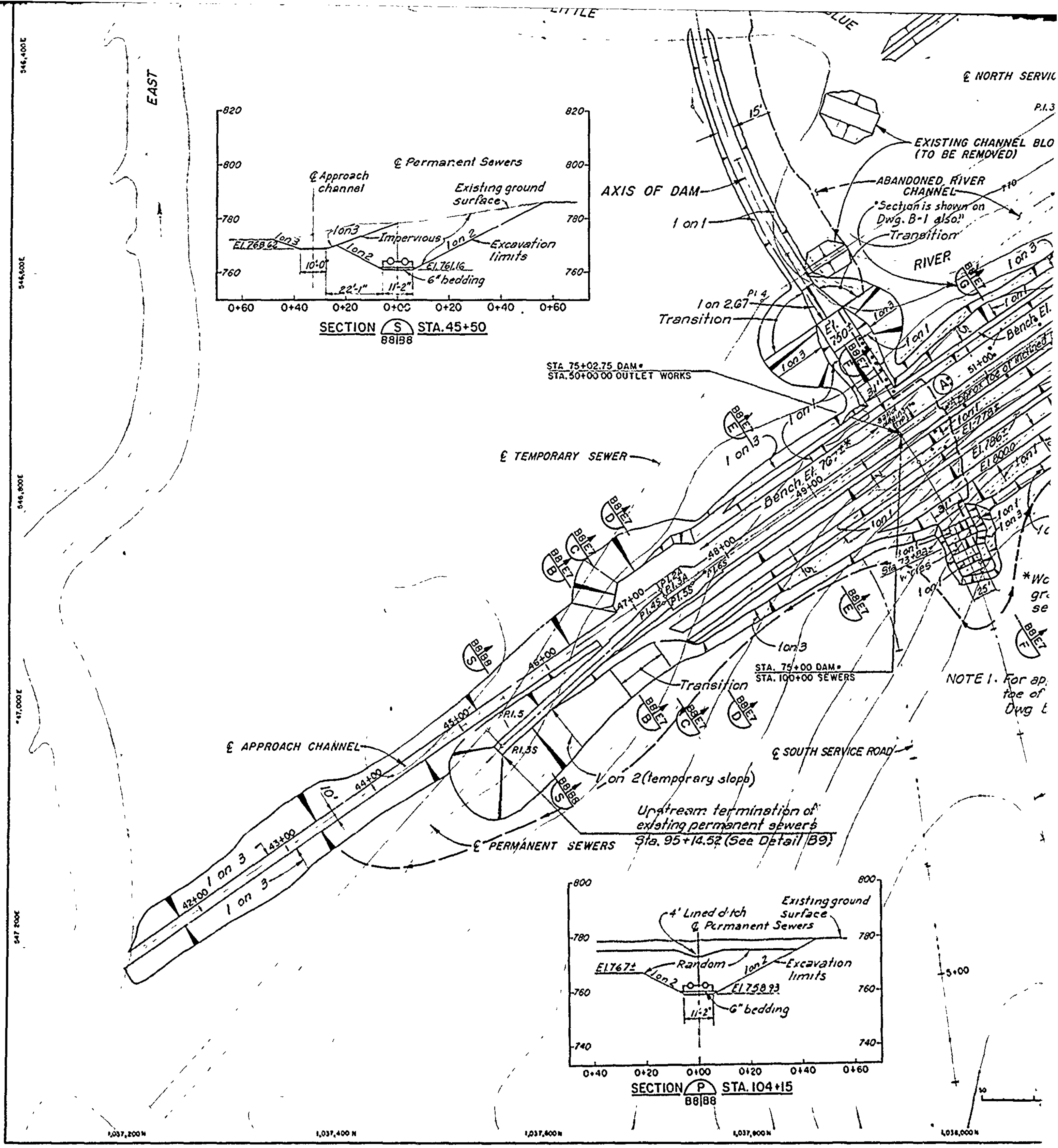
Designed by:
Drawn by:
Checked by:
Submitted by:

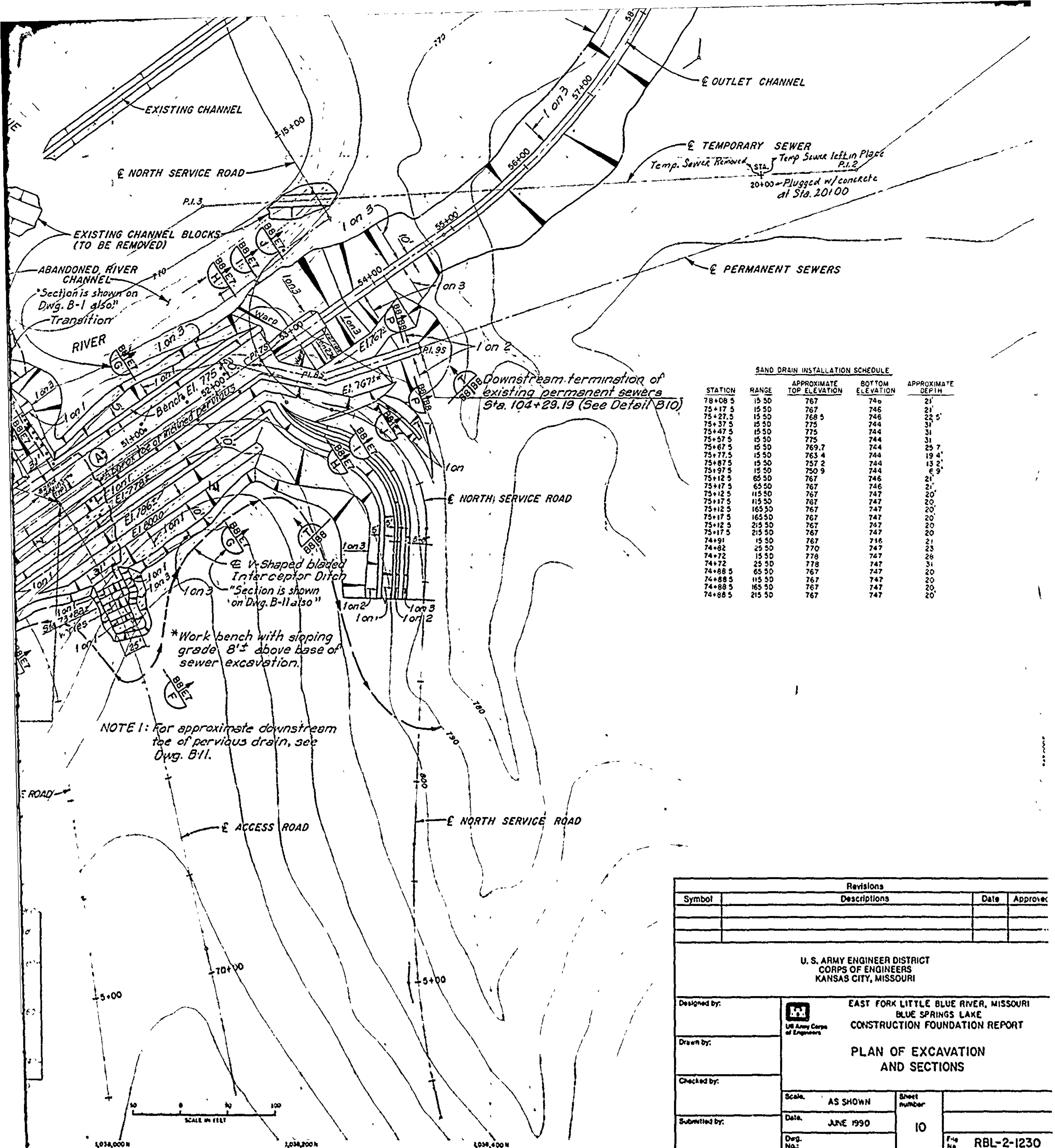
US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

PLAN OF EXCAVATION AND SECTIONS

Scale: AS SHOWN
Date: JUNE 1990
Sheet number: 10


EAST
AXIS OF DAM
1 on 1
¢ NORTH SERVIC
EXISTING CHANNEL BLO
(TO BE REMOVED)
ABANDONED RIVER CHANNEL
Section is shown on Dwg. B-1 also.
Transition
RIVER
1 on 2.67
Transition
STA. 75+02.75 DAM
STA. 50+00.00 OUTLET WORKS
¢ TEMPORARY SEWER
Bench El. 761±*
STA. 75+00 DAM
STA. 100+00 SEWERS
NOTE 1. For ap
¢ APPROACH CHANNEL
¢ SOUTH SERVICE ROAD
1 on 2 (temporary slope)
Upstream termination of existing permanent sewers Sta. 95+14.52 (See Detail B9)
¢ PERMANENT SEWERS
1 on 3
¢ Approach channel
¢ Permanent Sewers
Existing ground surface
Impervious
Excavation limits
El. 768.62
El. 761.16
6" bedding
10'-0"
22'-1"
11'-2"
SECTION S 88|88 STA. 45+50
4' Lined ditch
¢ Permanent Sewers
Existing ground surface
Random
Excavation limits
El. 767±
El. 758.93
6" bedding
11'-2"
SECTION P 88|88 STA. 104+15
1,037,200 N
1,037,400 N
1,037,600 N
1,037,800 N
1,038,000 N
BASE FILE NO. HBL-2-89



SAND DRAIN INSTALLATION SCHEDULE

STATION	RANGE	APPROXIMATE TOP ELEVATION	BOTTOM ELEVATION	APPROXIMATE DEPTH
78+08 5	15 50	767	746	21'
75+17 5	15 50	767	746	21'
75+27.5	15 50	768 5	746	22 5'
75+37 5	15 50	775	744	31'
75+47 5	15 50	775	744	31
75+57 5	15 50	775	744	31
75+67 5	15 50	769.7	744	25 7
75+77.5	15 50	763 4	744	19 4'
75+87 5	15 50	757 2	744	13 2'
75+97 5	15 50	750 9	744	6 9'
75+12 5	65 50	767	746	21'
75+17 5	65 50	767	746	21'
75+12 5	115 50	767	747	20'
75+17 5	115 50	767	747	20
75+12 5	165 50	767	747	20'
75+17 5	165 50	767	747	20'
75+12 5	215 50	767	747	20
75+17 5	215 50	767	747	20
74+91	15 50	767	746	21
74+82	25 50	770	747	23
74+72	15 50	778	747	28
74+72	25 50	778	747	31
74+88 5	65 50	767	747	20
74+88 5	115 50	767	747	20
74+88 5	165 50	767	747	20
74+88 5	215 50	767	747	20'

Revisions

Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:
Drawn by:
Checked by:
Submitted by:

US Army Corps of Engineers

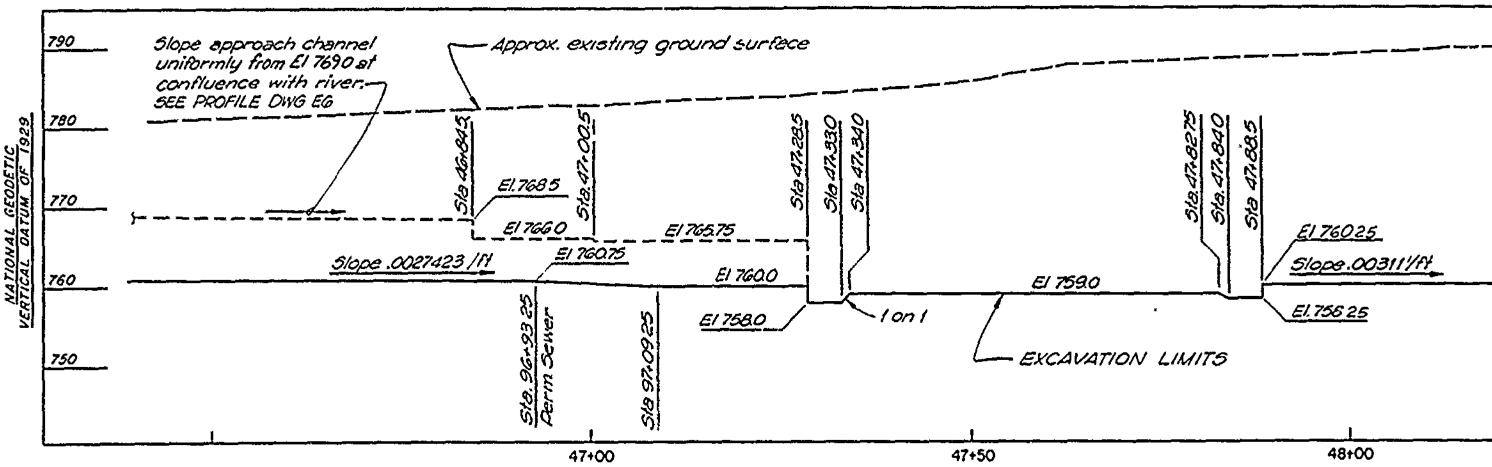
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

PLAN OF EXCAVATION AND SECTIONS

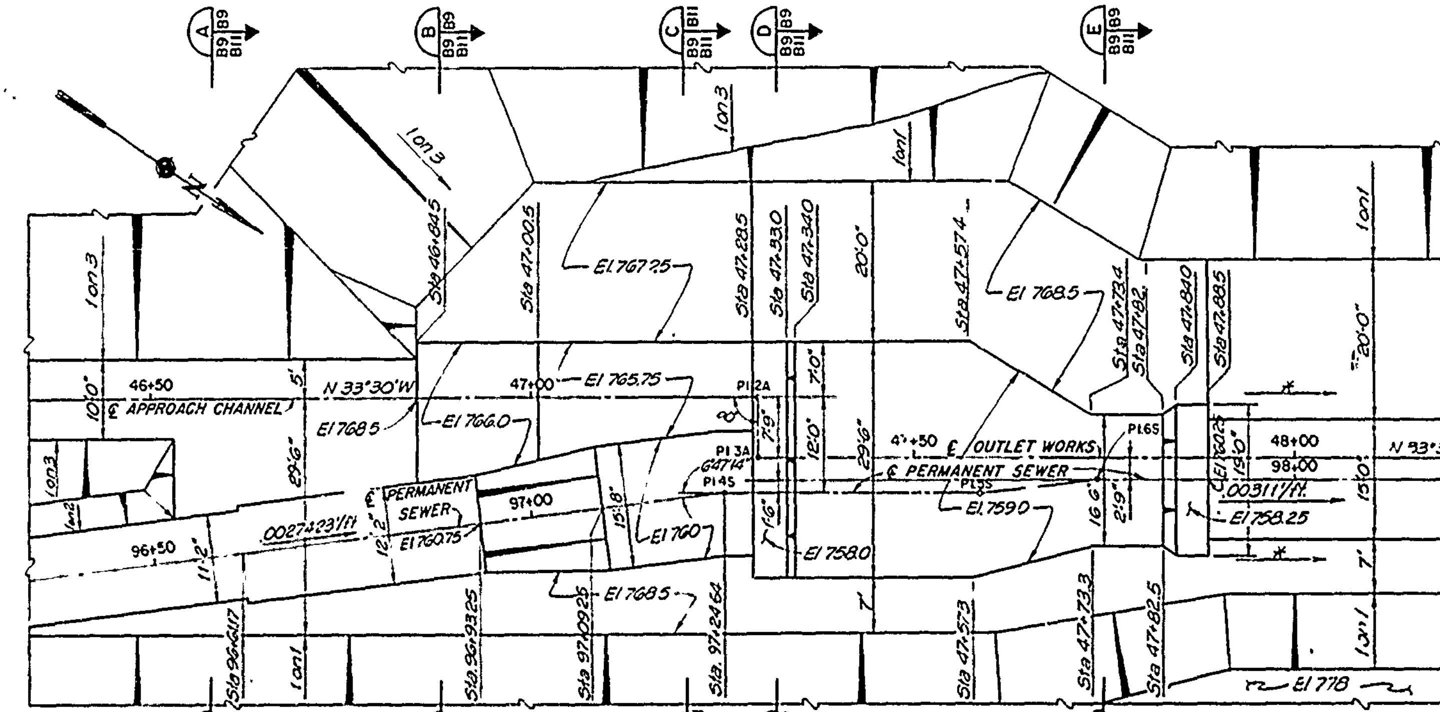
Scale: AS SHOWN
Date: JUNE 1990
Sheet number: 10
Dwg. No.:
File No. RBL-2-1230

PLATE NO. 10

BASE FILE NO. RBL-2-8



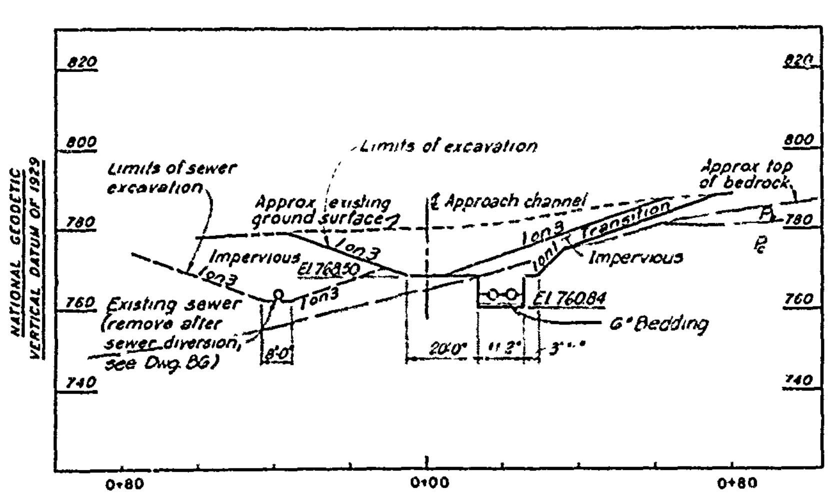
PROFILE ALONG CENTERLINE OF SEWER AND TOWER STRUCTURE



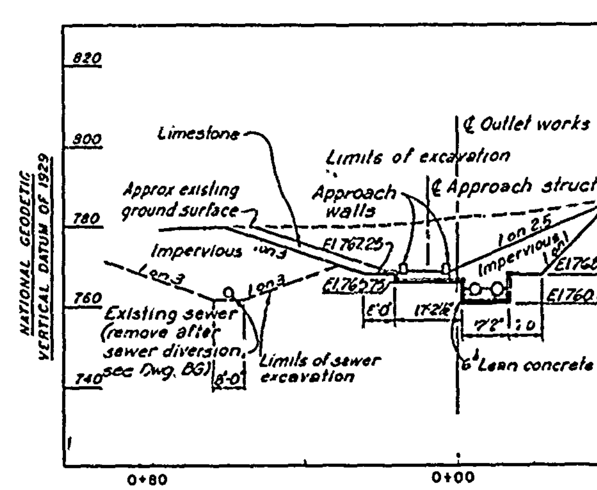
*Grade of work bench to be 8.0 ... grade of base of sewer exca... downstream from Sta 47+88...

PLAN OF EXCAVATION FOR APPROACH AND TOWER STRUCTURE

SCALE IN FEET

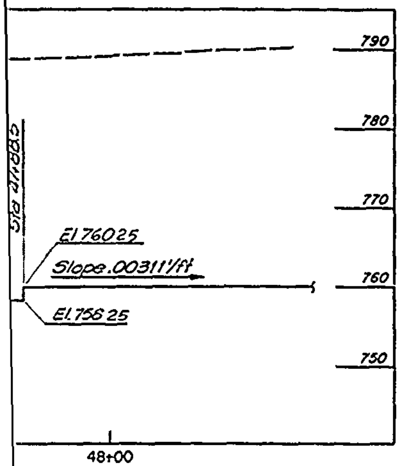


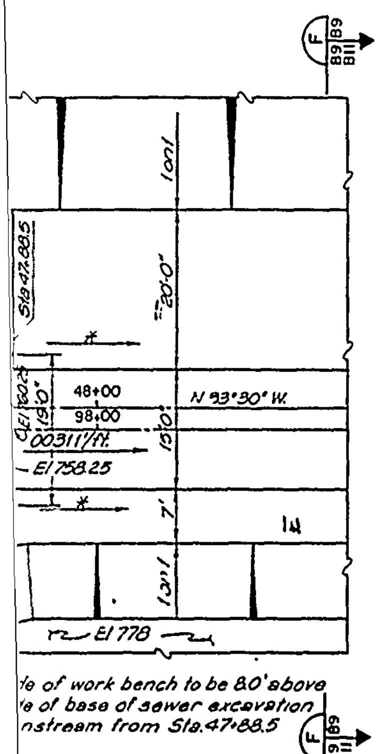
SECTION A STA. 46+58



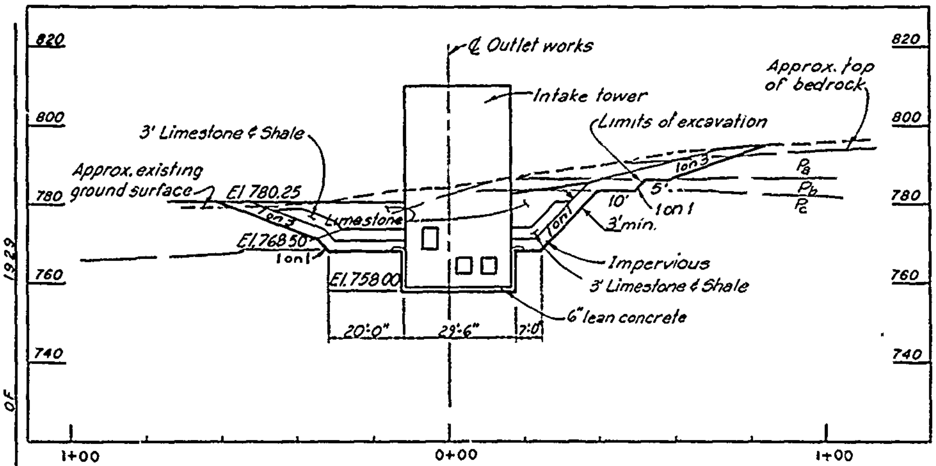
SECTION B STA. 46+88

VALUE ENGINEERING PAYS

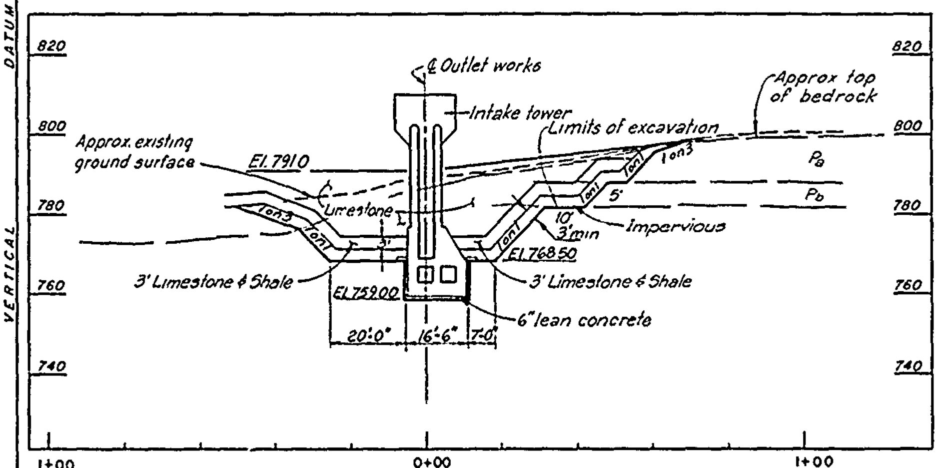




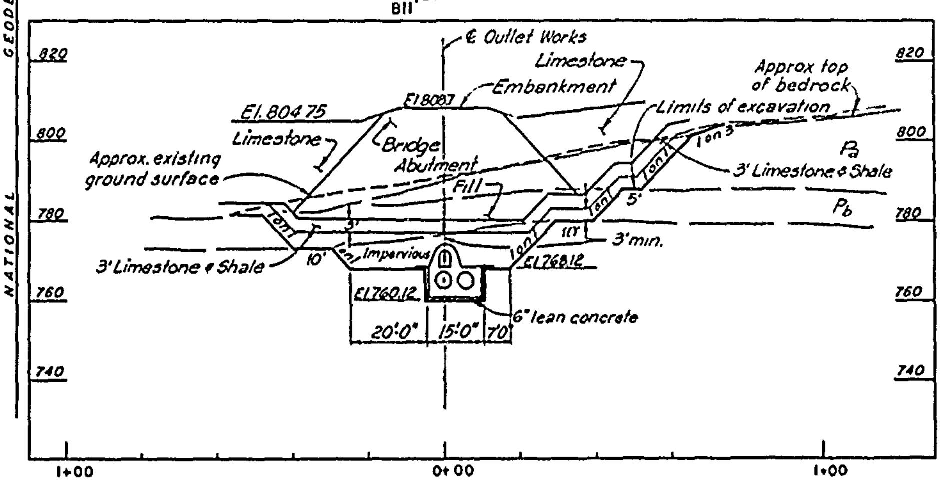
NATIONAL GEODETIC VERTICAL DATUM OF 1929



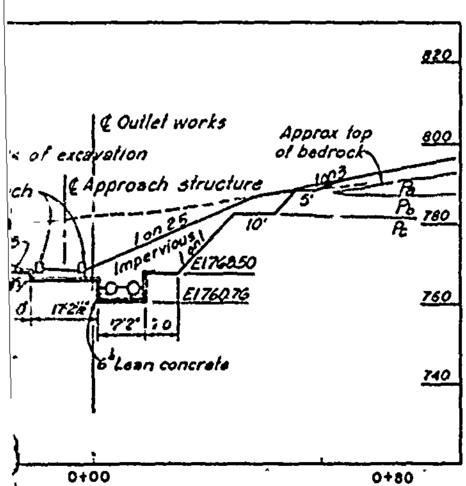
SECTION D STA. 47+32
B9|B9
B11



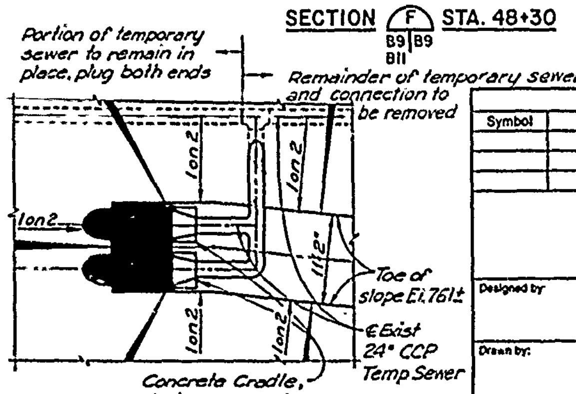
SECTION E STA. 47+75
B9|B9
B11



SECTION F STA. 48+30
B9|B9
B11



SECTION B STA. 46+88
B9|B9



EXCAVATION AT UPSTREAM TERMINATION OF EXISTING PERMANENT SEWER

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:

Drawn by:

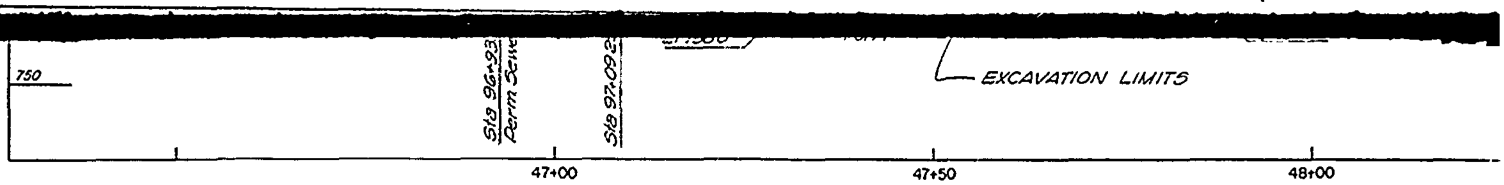
Checked by:

US Army Corps of Engineers

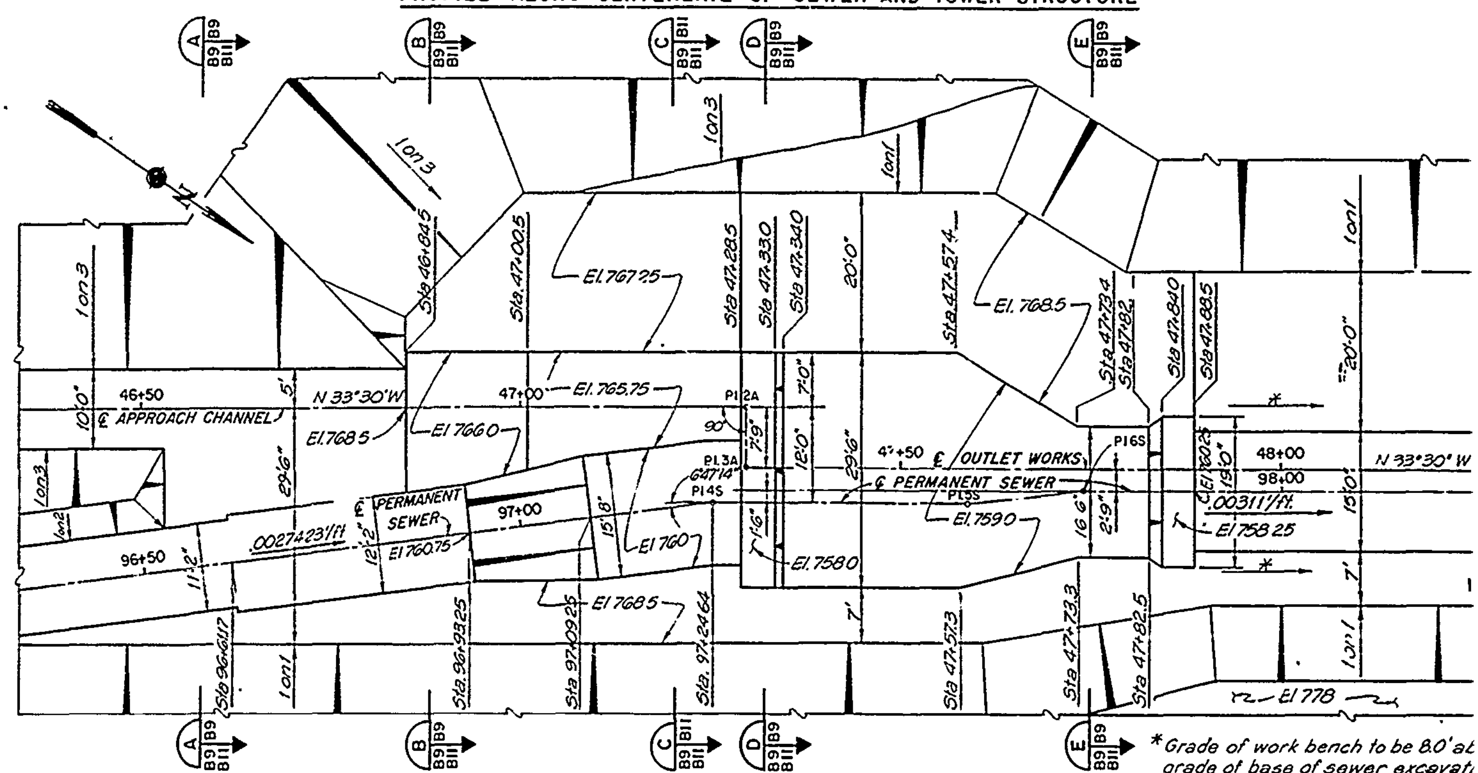
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

APPROACH STRUCTURE
EXCAVATION AND BACKFILL

Scale: AS SHOWN | Sheet

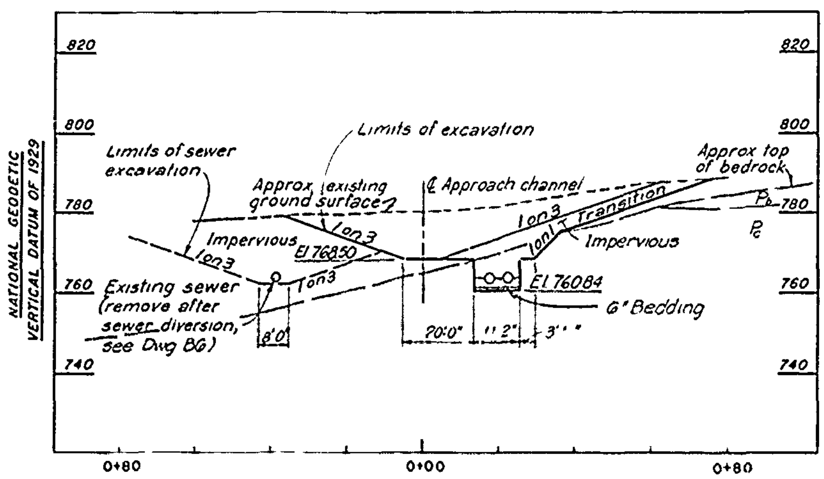


PROFILE ALONG CENTERLINE OF SEWER AND TOWER STRUCTURE

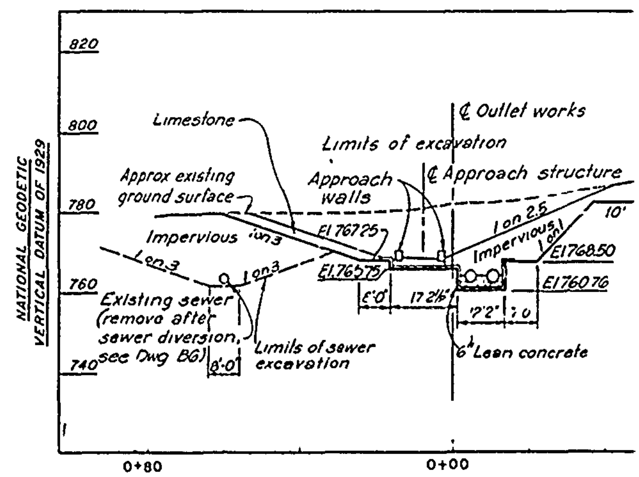


PLAN OF EXCAVATION FOR APPROACH AND TOWER STRUCTURE

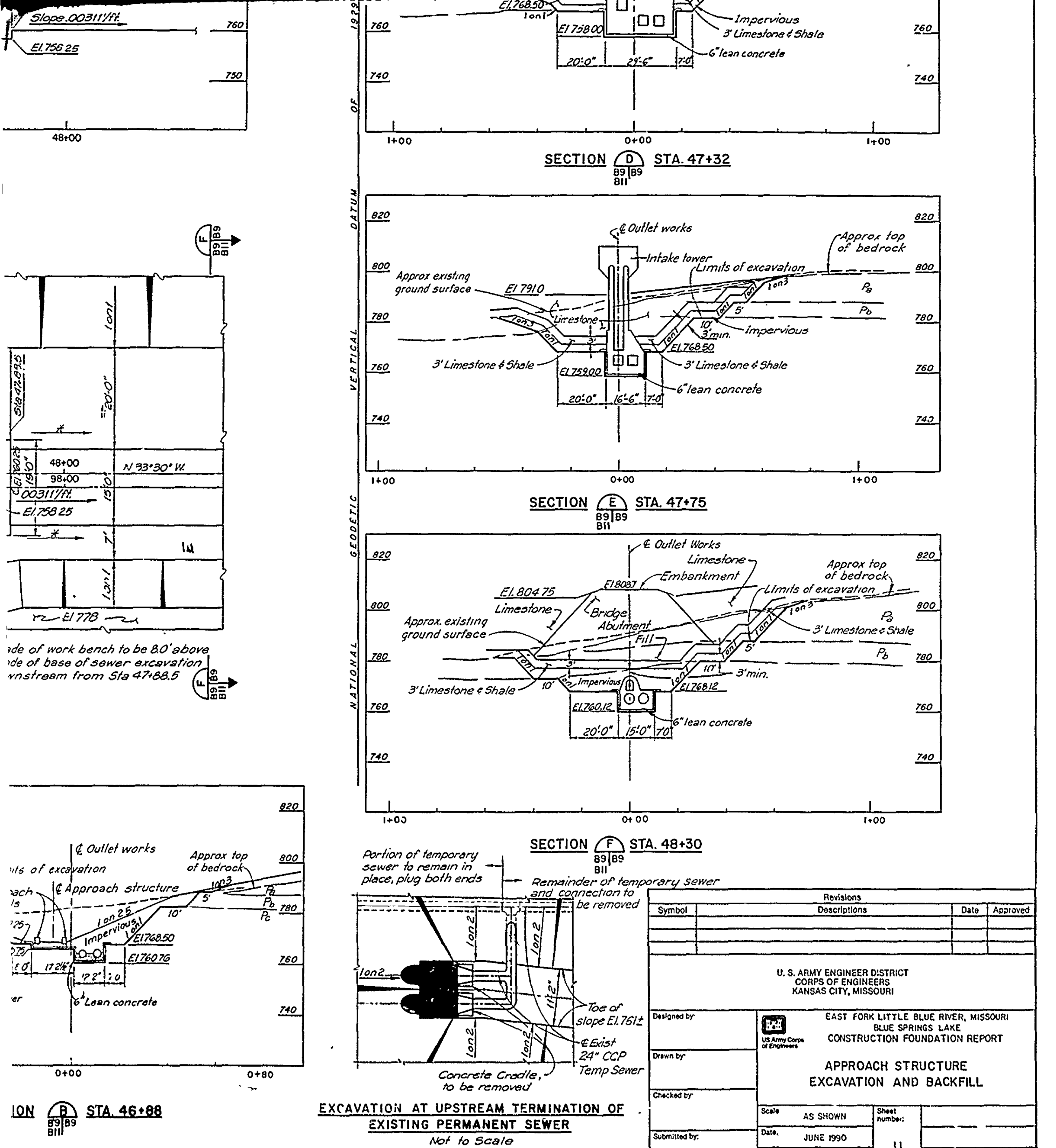
*Grade of work bench to be 8.0' at grade of base of sewer excavati downstream from Sta 47+88.5



SECTION A (B9 B9 B11) STA. 46+58



SECTION B (B9 B9 B11) STA. 46+88



Revisions			
Symbol	Descriptions	Date	Approved

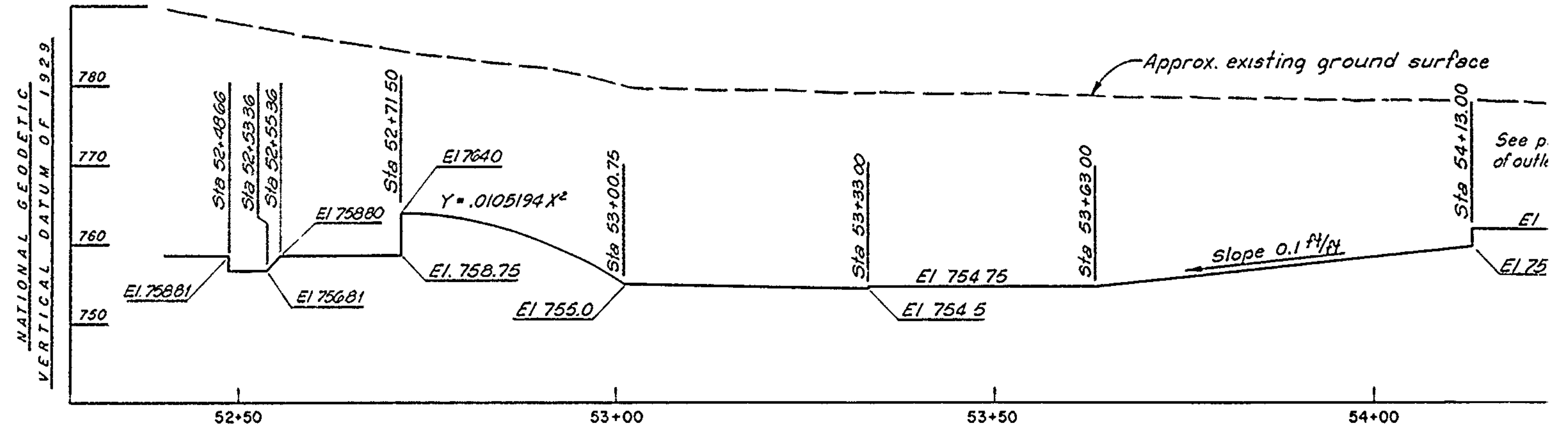
U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:
Drawn by:
Checked by:
Submitted by:

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

APPROACH STRUCTURE
EXCAVATION AND BACKFILL

Scale: AS SHOWN
Date: JUNE 1990
Sheet number: 11
File No: RBL-2-1231

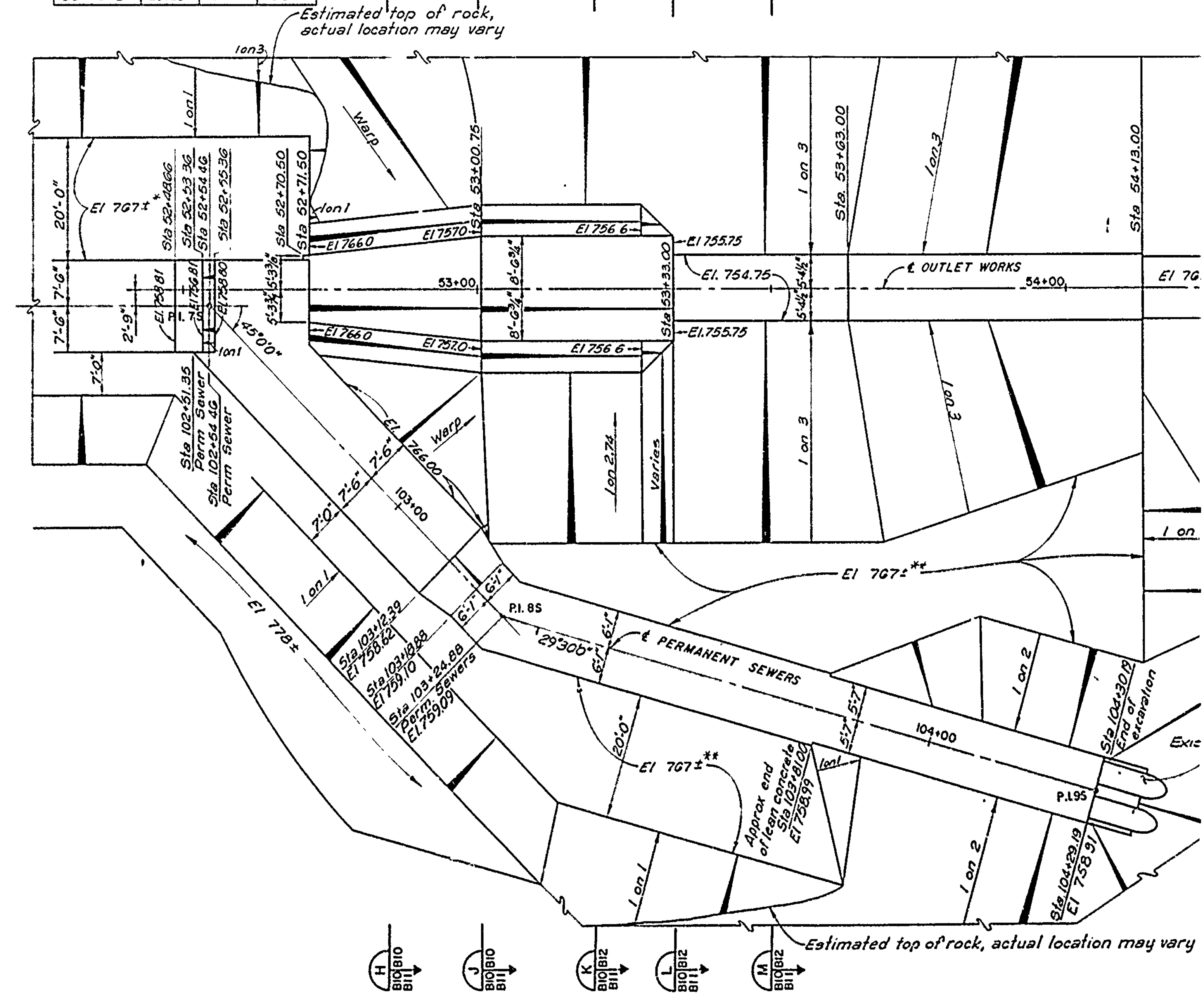


PROFILE ALONG ℄ OF OUTLET WORKS

CURVE DATA

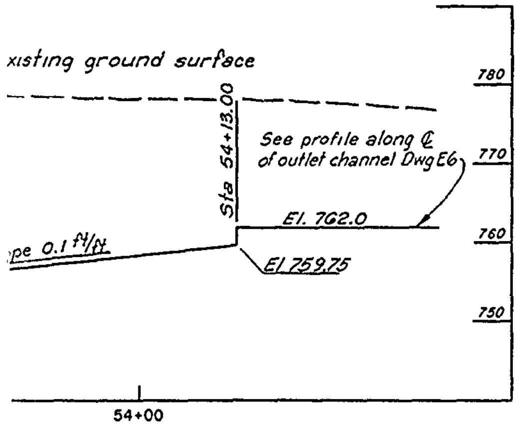
STATION	X	Y	ELEV
52+71.50	0	0	764.00
52+76.50	5	0.26	763.74
52+81.50	10	1.05	762.95
52+86.50	15	2.37	761.63
52+91.50	20	4.21	759.79
52+96.50	25	6.57	757.43
53+00.75	29.25	9.00	755.00

NOTE.
See Dwg B11 for layout of stilling basin

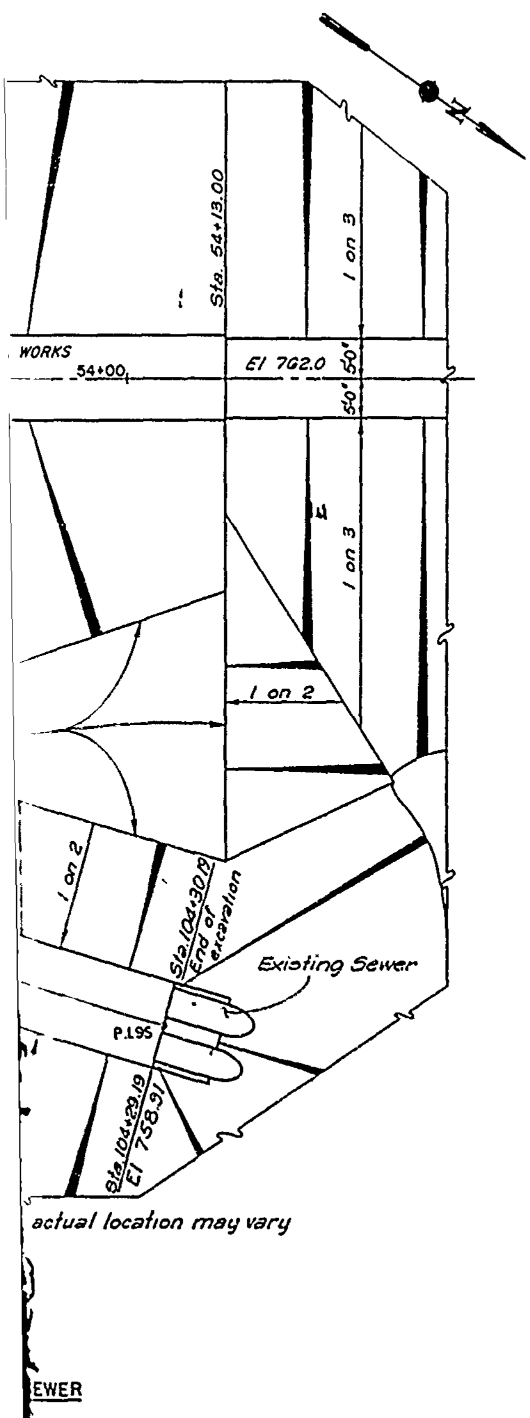


* Grade of work bench to be 8.0'± above grade of base of sewer excavation from Sta 97+88.5 to Sta 103.12.
** Grade of work bench to be 7.5'± above grade of base of sewer excavation from Sta 103+19 to end.

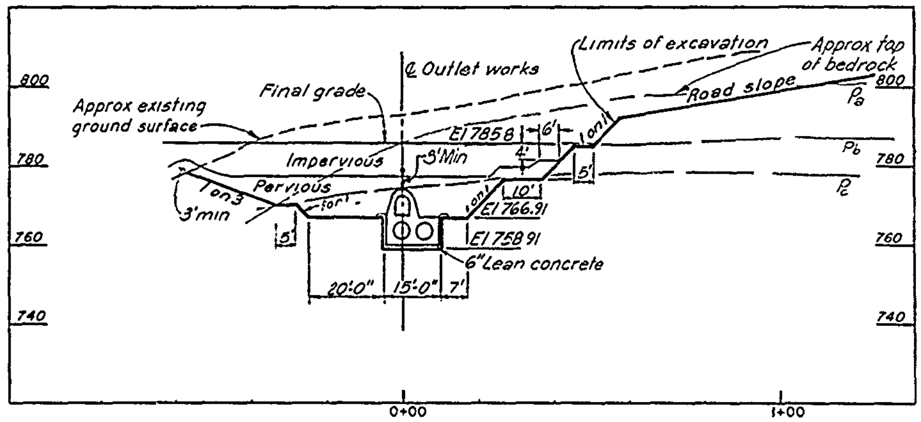
PLAN OF EXCAVATION FOR STILLING BASIN AND PERMANENT SEWER



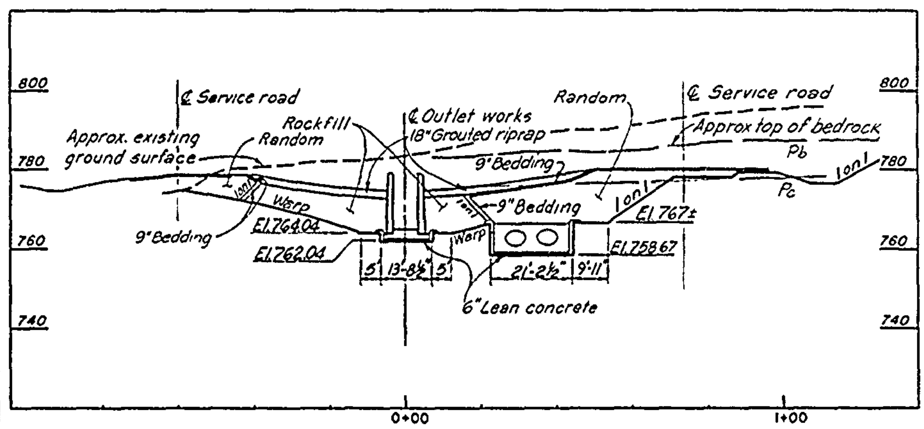
B11 for layout of stilling basin



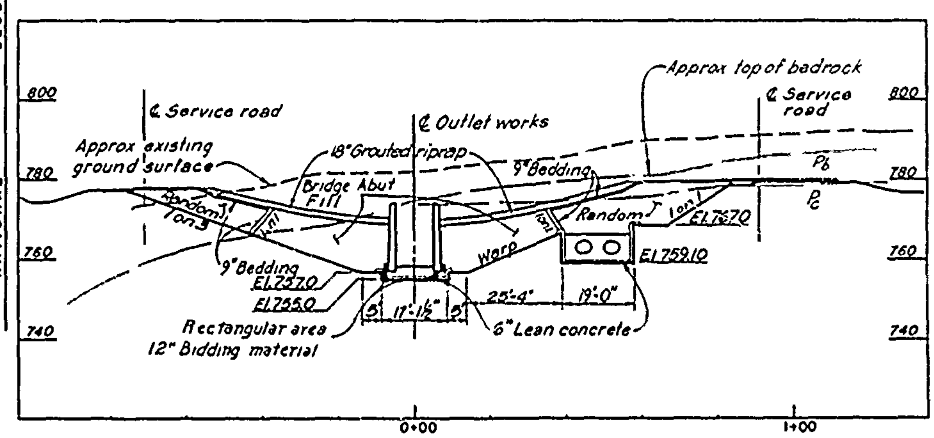
NATIONAL GEODETIC VERTICAL DATUM OF 1929



SECTION G STA. 52+20
B11 | B10



SECTION H STA. 52+85
B10 | B10
B11



SECTION J STA. 53+01
B10 | B10
B11

NOTE:
See excavation and backfill Sta. 51+35 on dwg B11

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

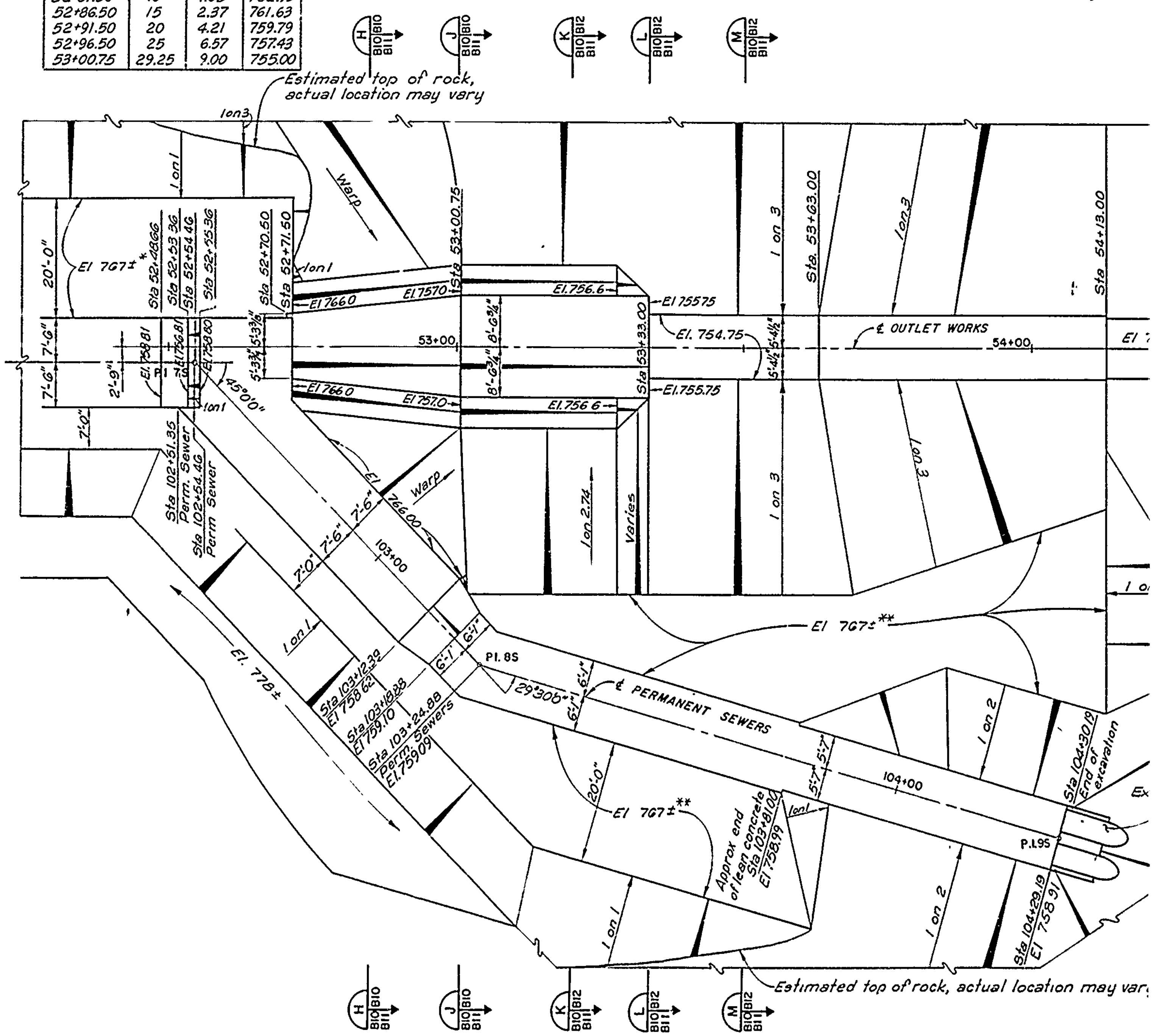
Designed by:	US Army Corps of Engineers — EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by:	STILLING BASIN EXCAVATION AND BACKFILL
Checked by:	Scale: AS SHOWN — Sheet number:
	Date:

CURVE DATA

STATION	X	Y	ELEV.
52+71.50	0	0	764.00
52+76.50	5	0.26	763.74
52+81.50	10	1.05	762.95
52+86.50	15	2.37	761.63
52+91.50	20	4.21	759.79
52+96.50	25	6.57	757.43
53+00.75	29.25	9.00	755.00

PROFILE ALONG ℄ OF OUTLET WORKS

NOTE
See Dwg B11 for layout of stilling basin

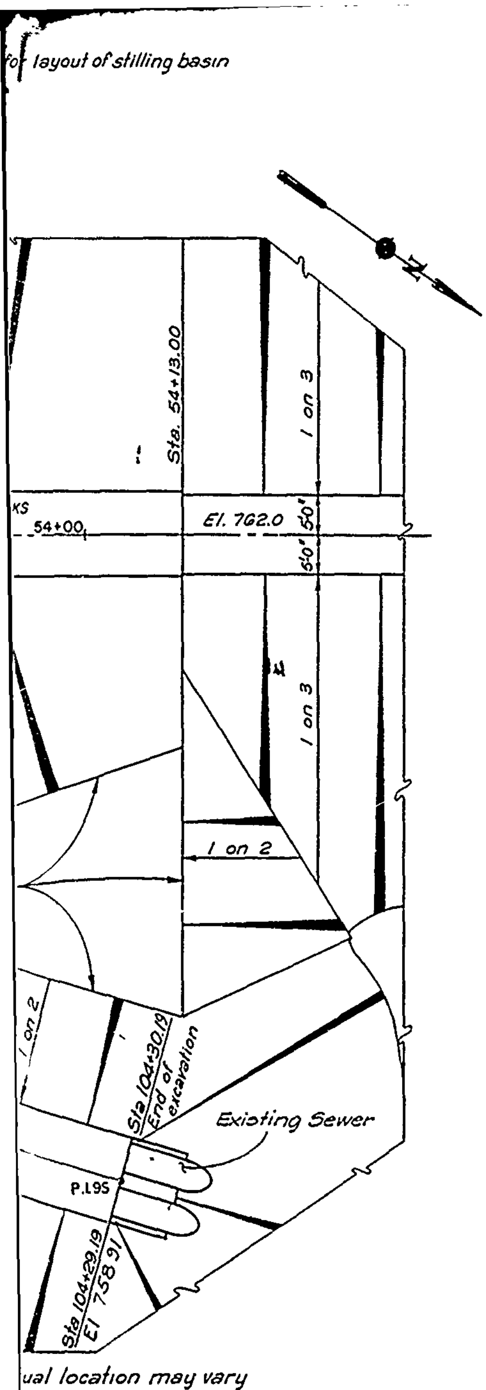


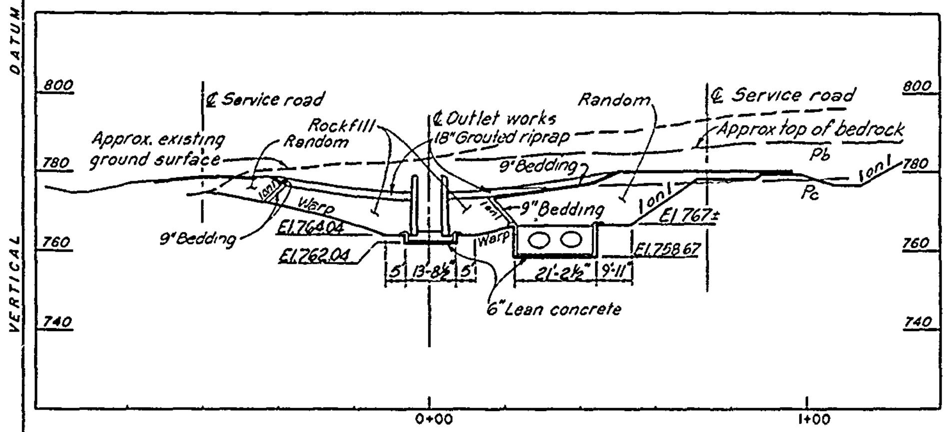
* Grade of work bench to be 8.0'± above grade of base of sewer excavation from Sta 97+88.5 to Sta 103.12.

** Grade of work bench to be 7.5'± above grade of base of sewer excavation from Sta 103+19 to end.

PLAN OF EXCAVATION FOR STILLING BASIN AND PERMANENT SEWER

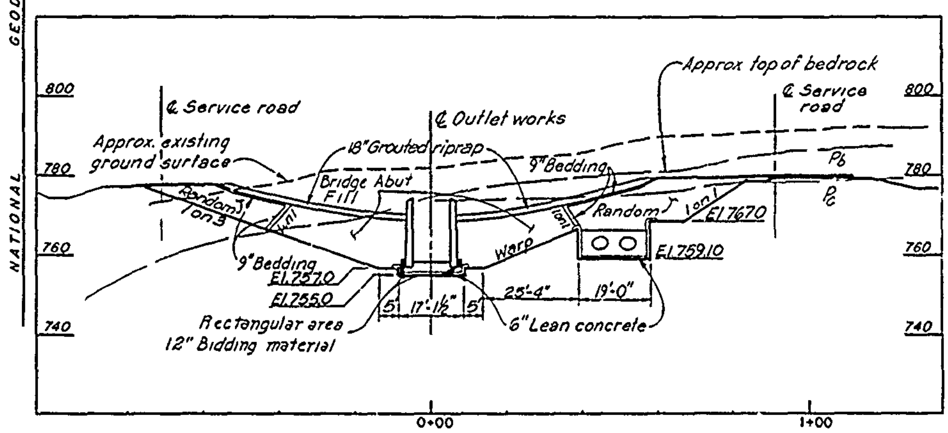
SCALE IN FEET





SECTION H STA. 52+85

B10 | B10
B11



SECTION J STA. 53+01

B10 | B10
B11

NOTE:
See excavation and backfill Sta. 51+35 on dwg B11

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:

Drawn by:

Checked by:

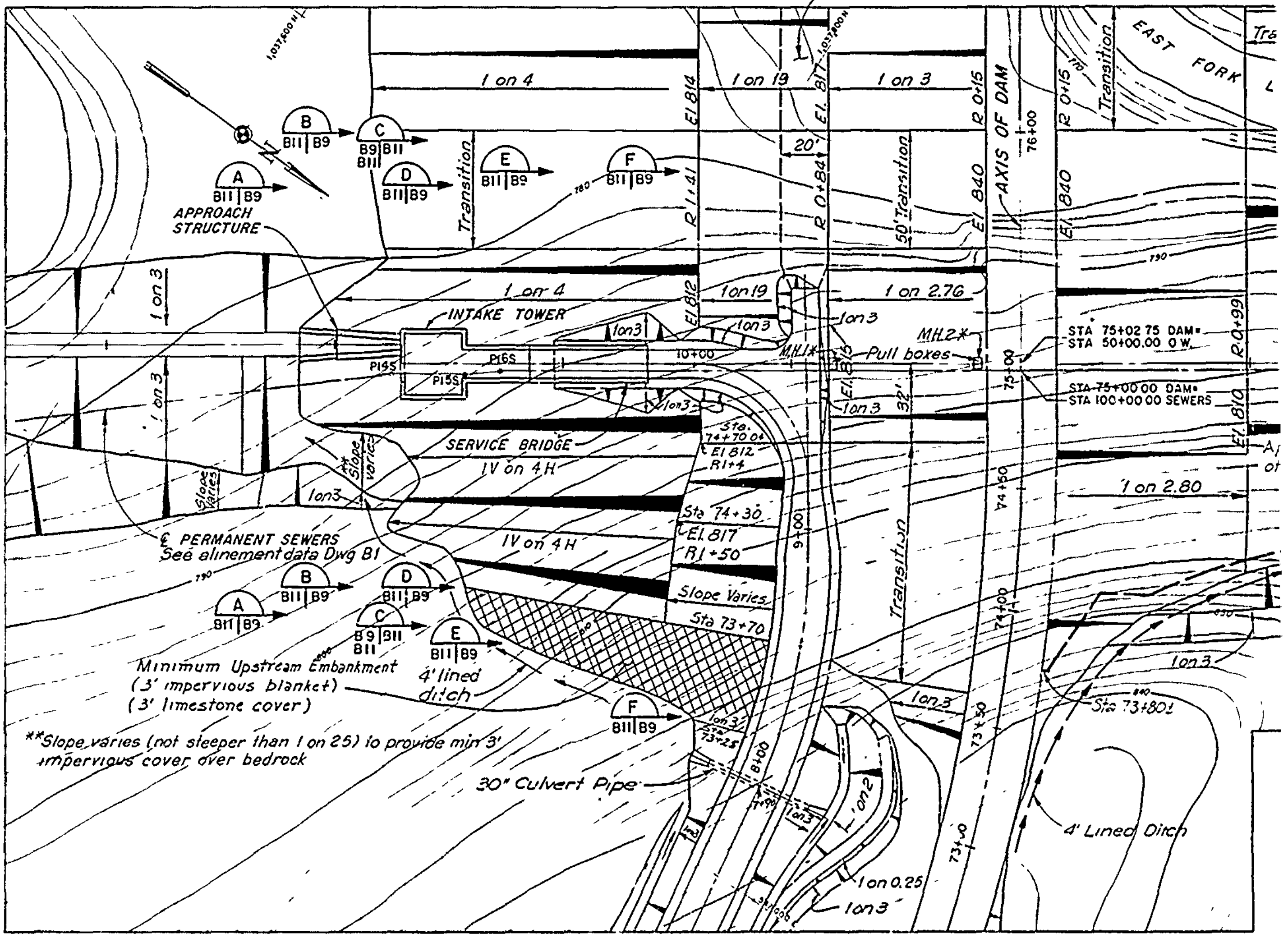
Submitted by:

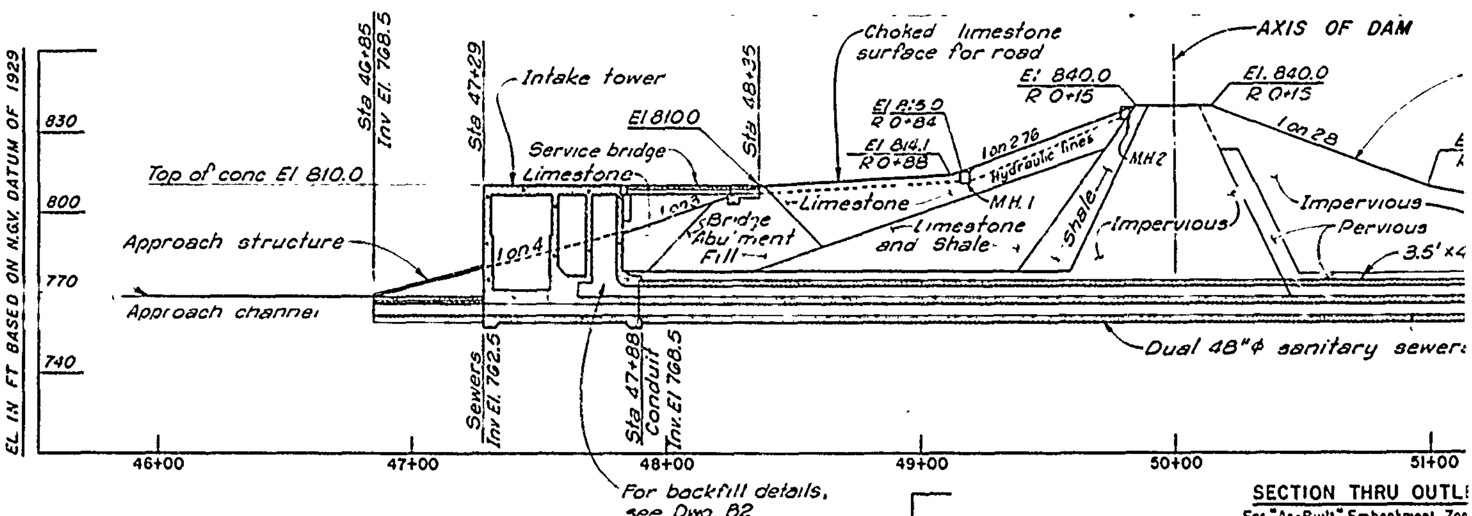
US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

STILLING BASIN EXCAVATION
AND BACKFILL

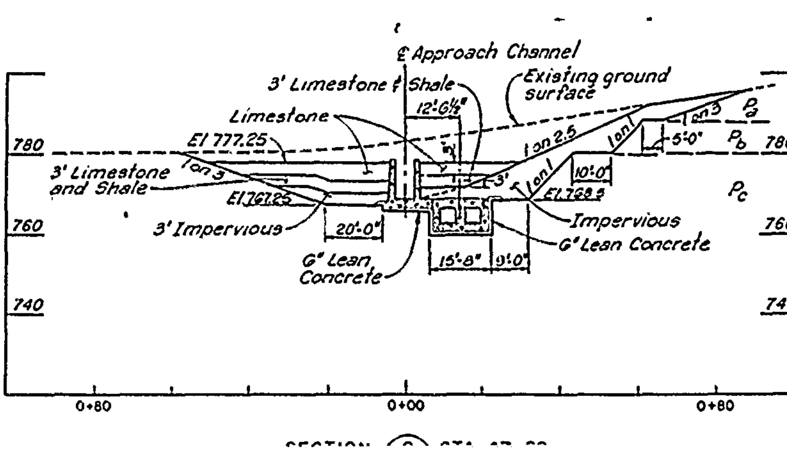
Scale	AS SHOWN	Sheet number	12
Date	JUNE 1990		
Dwg No.:		File No	RBL-2-1232

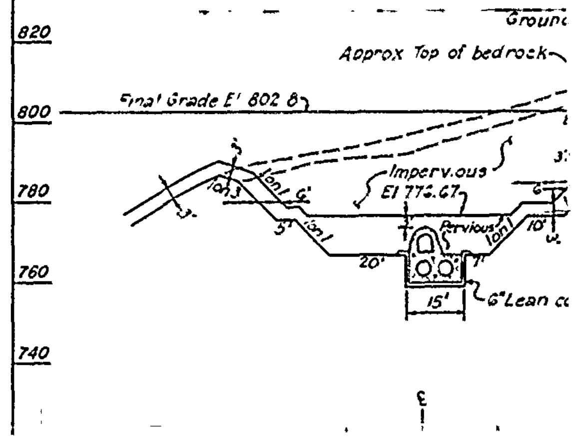




SECTION THRU OUTL

For "As-Built" Embankment Zon





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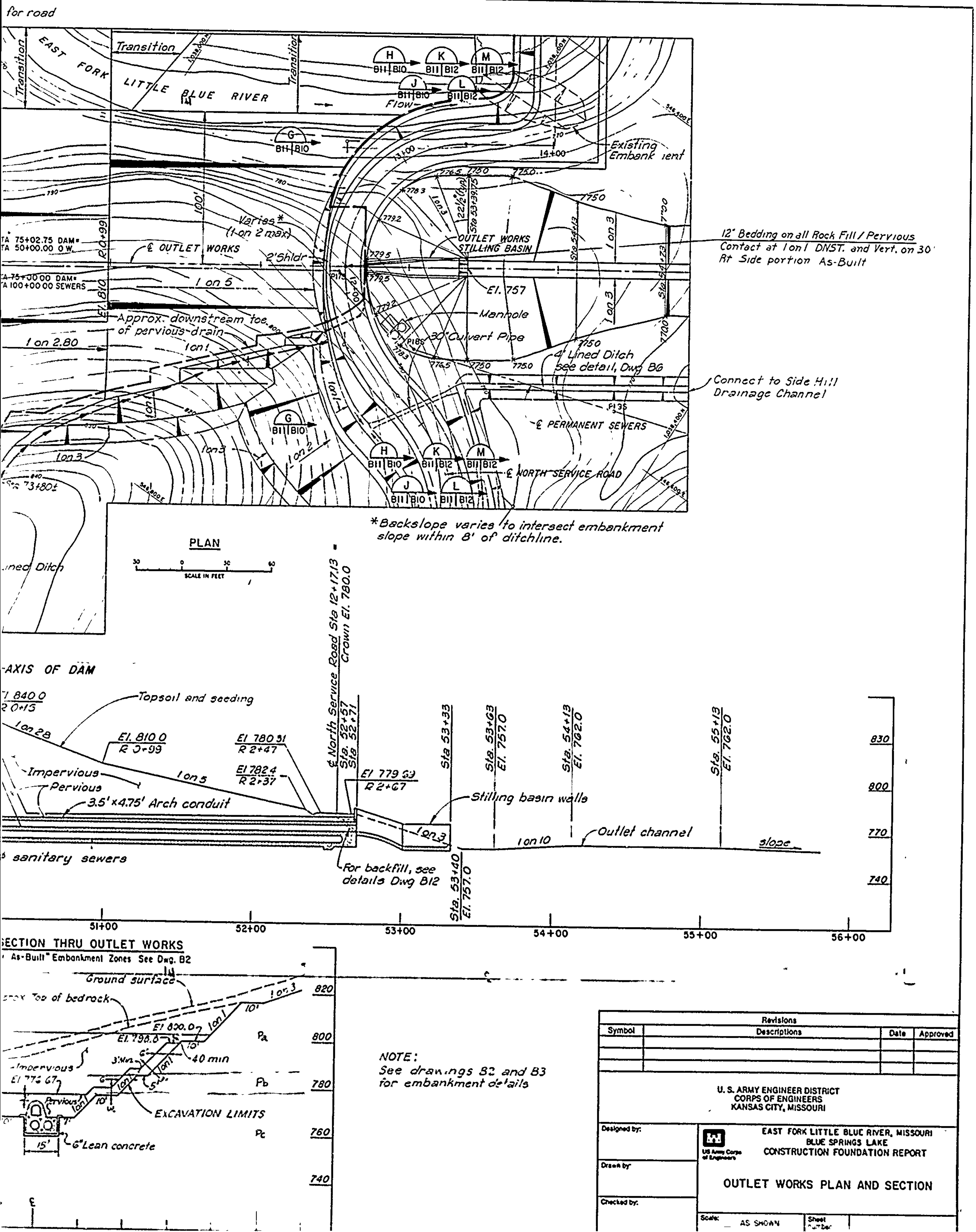


Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:

Drawn by:

Checked by:

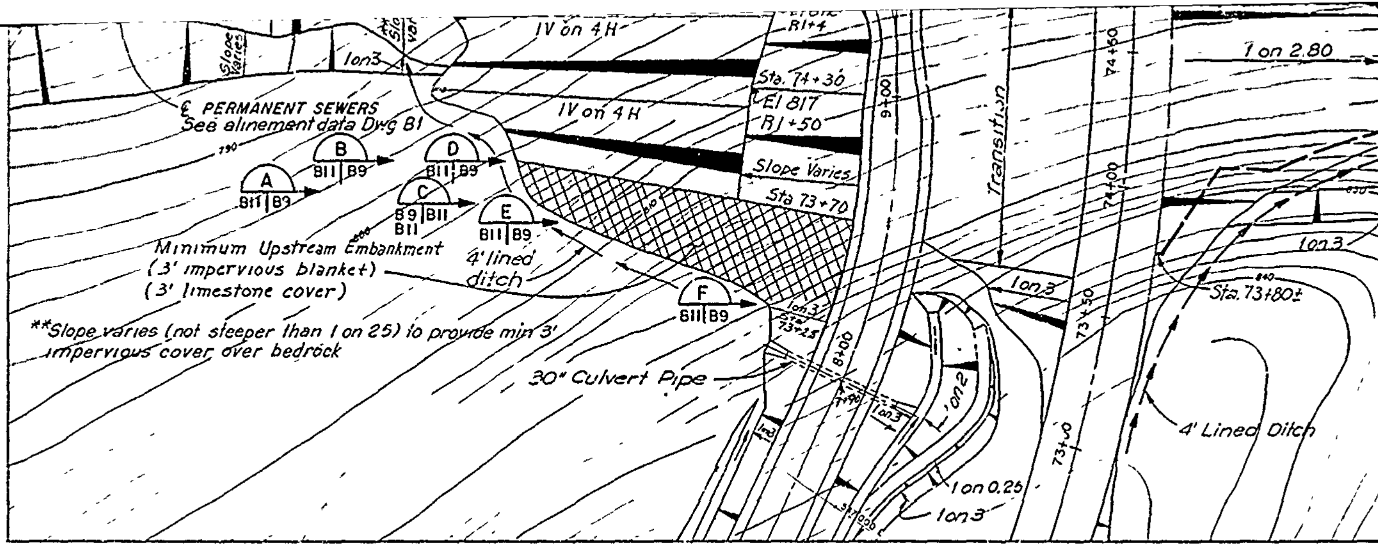
US Army Corps of Engineers

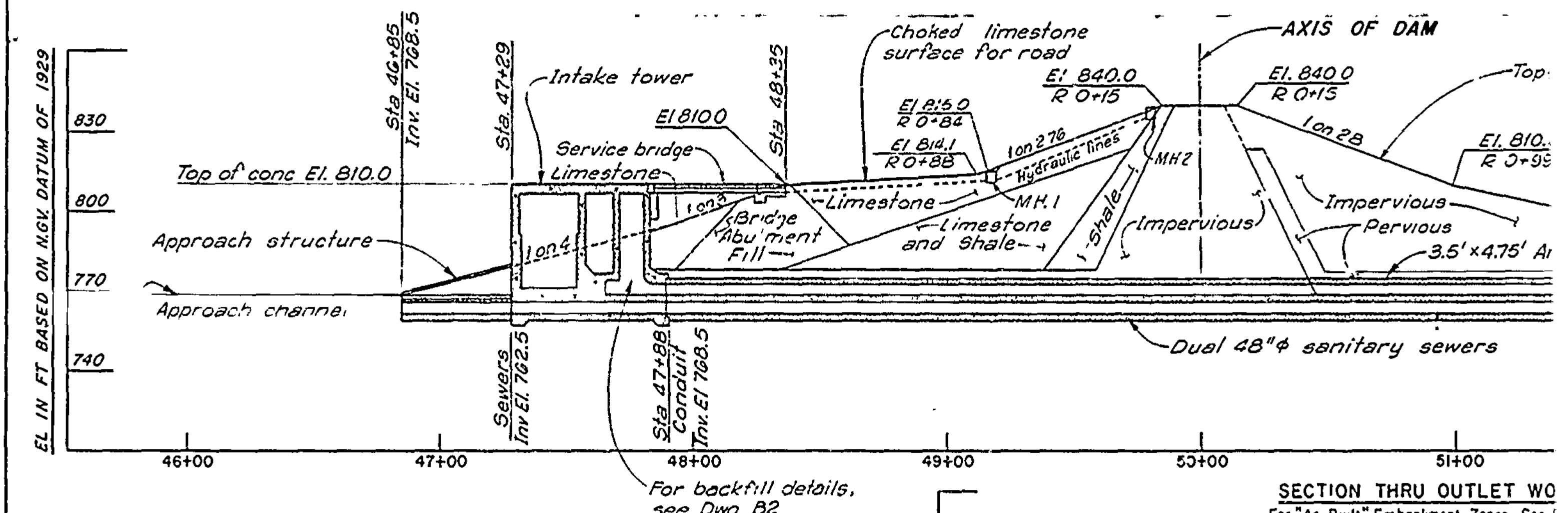
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

OUTLET WORKS PLAN AND SECTION

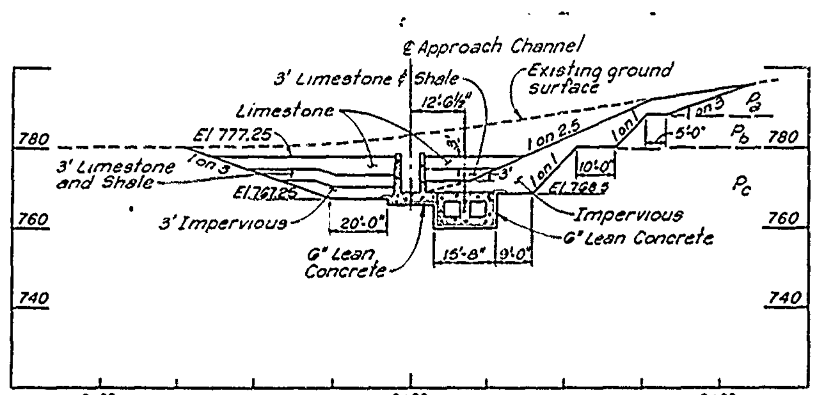
Scale: AS SHOWN

Sheet Number

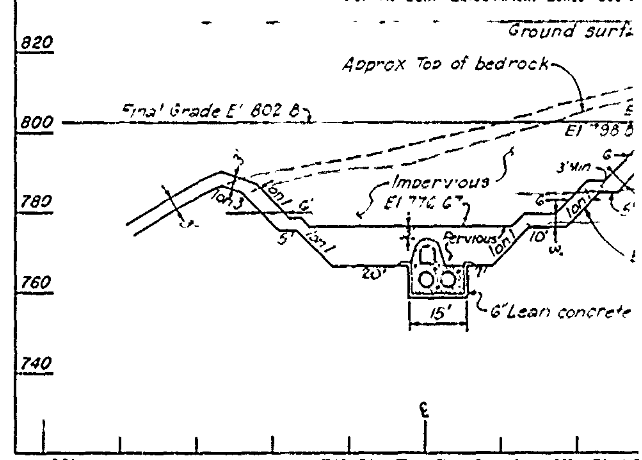




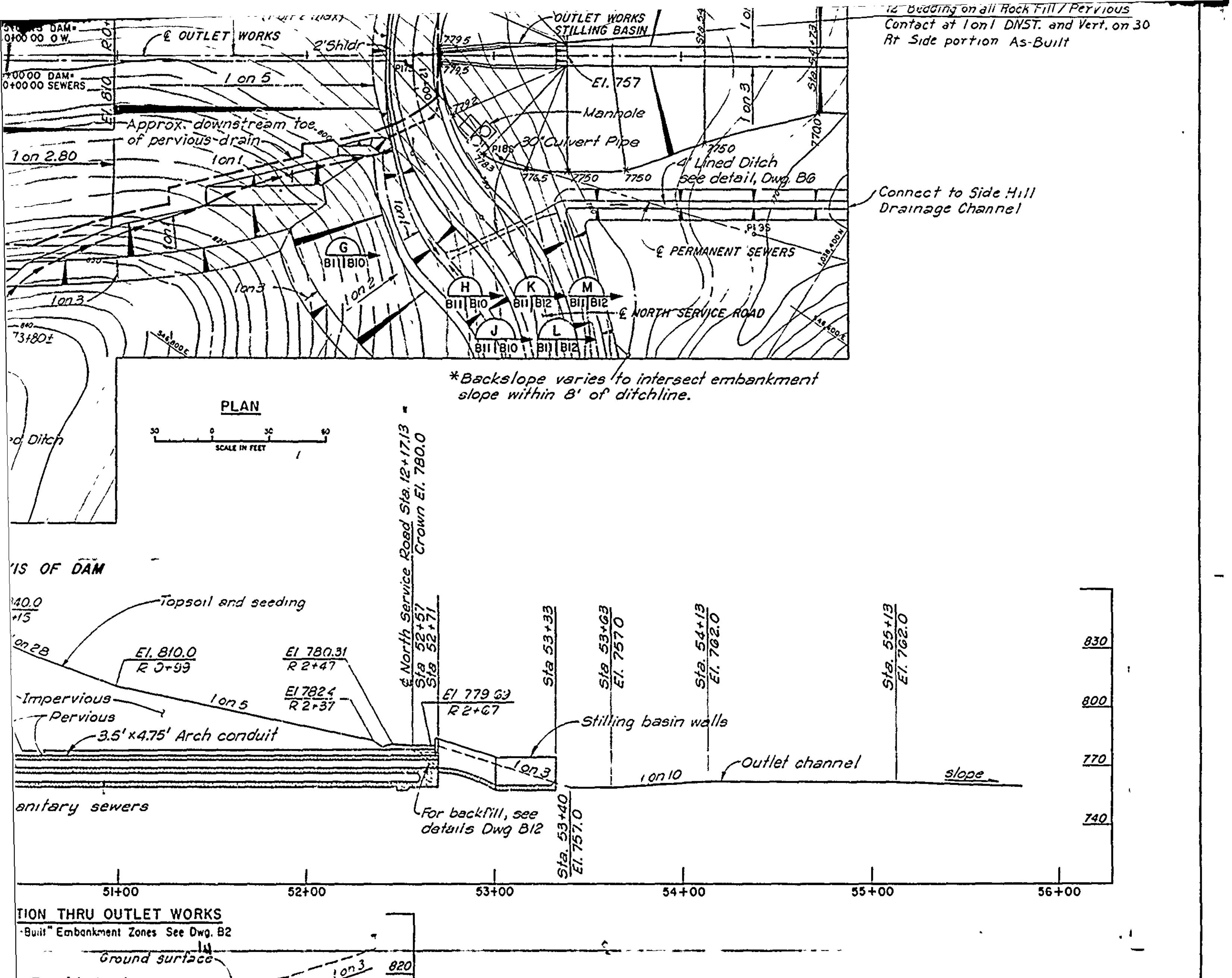
SECTION THRU OUTLET WO
For "As-Built" Embankment Zones See [



SECTION C (B9 | B11, B11) STA. 47+20



SECTION AT OUTLET WORKS STA. 51+35
LOOKING DOWNSTREAM



Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

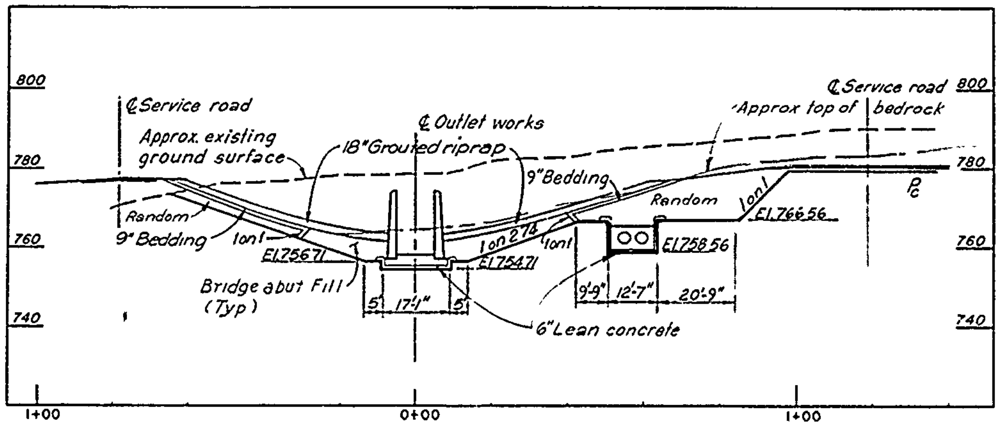
OUTLET WORKS PLAN AND SECTION

Designed by:
Drawn by:
Checked by:
Submitted by:

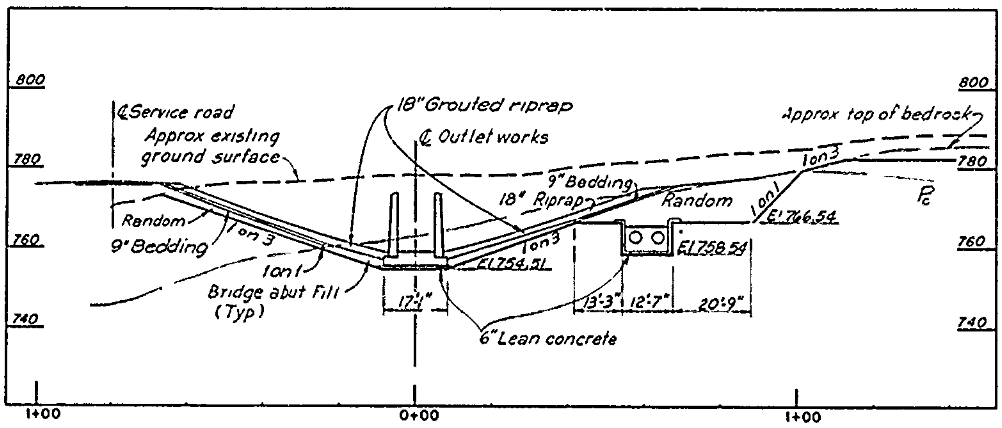
Scale: AS SHOWN
Date: JUNE 1990
Sheet number: 13
Dwg. No.:
File No. RBL-2-1233

PLATE NO. 13

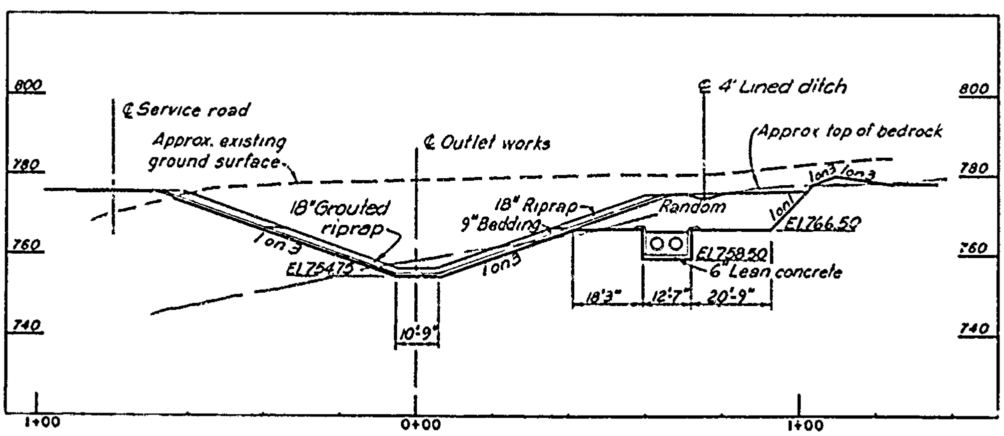
NATIONAL GEODETIC VERTICAL DATUM OF 1929



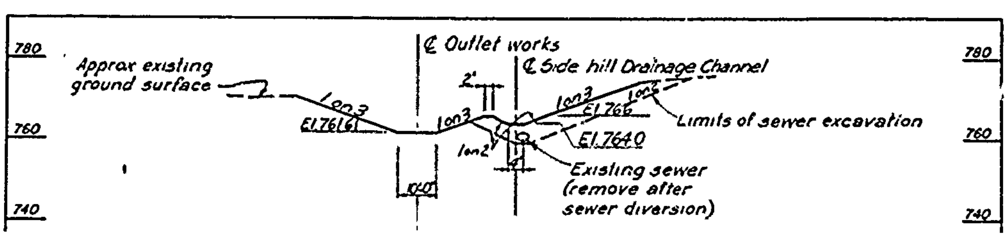
SECTION K 811|812 STA.53+20

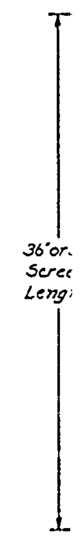


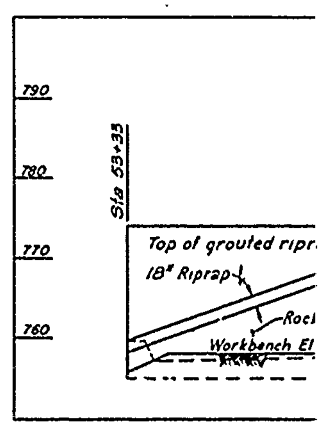
SECTION L 811|812 STA.53+33



SECTION M 811|812 STA.53+50







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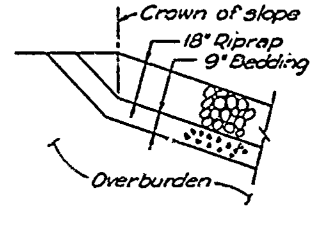
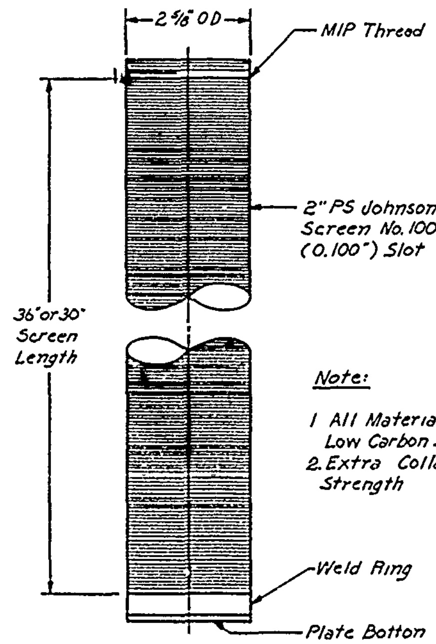
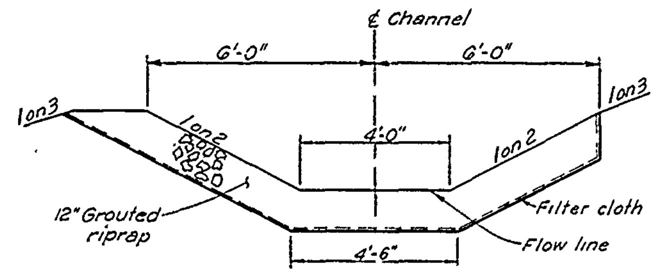


UPSLOPE TERMINATION OF SLOPE PROTECTION

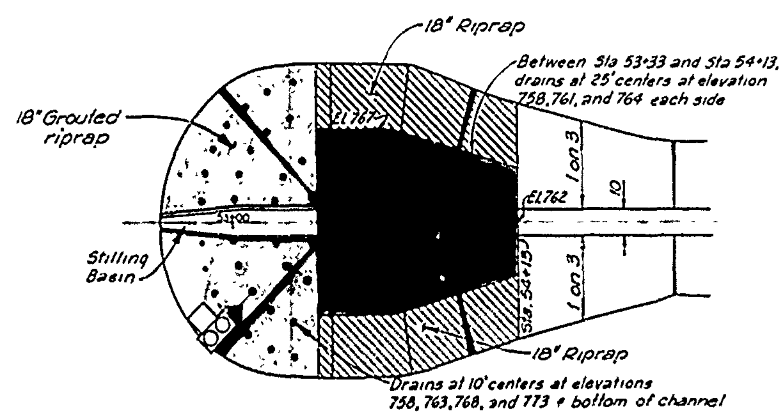




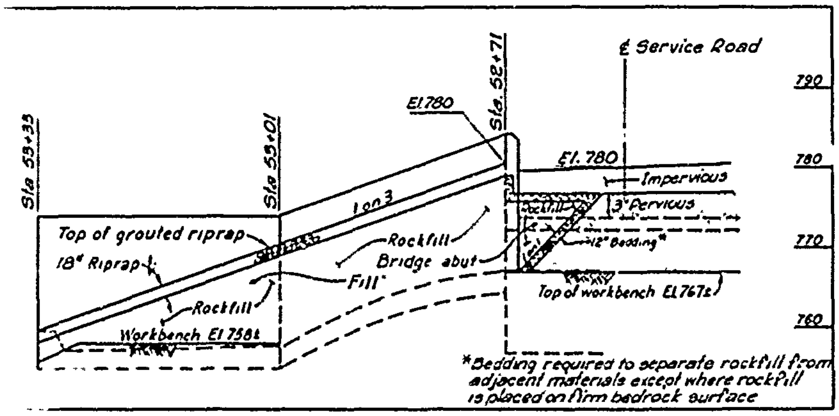
DETAIL OF SIDE-HILL DRAINAGE CHANNEL
LOOKING DOWNSTREAM
Not to Scale

"For connecting the 4-foot lined ditch to side-hill drainage channel, See Dwg B1 and B11."

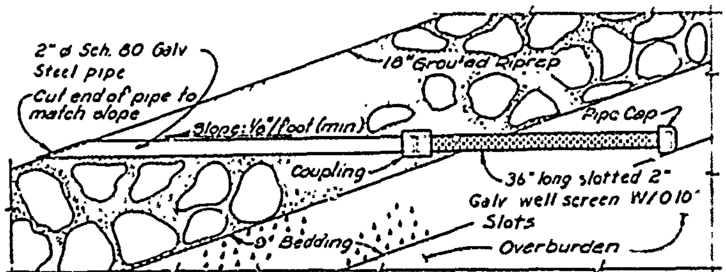
OUTLET WORKS ℄ STATION	RIGHT ANGLE OFFSET FROM TANGENT TO ℄ SIDE-DRAIN, FT	SIDE DRAIN ELEVATION IN FT (NGVD)
55+20.00	37.18 to P.C.	768.0
55+60.00	31.75	766.0
56+00.00	26.36	764.0
56+40.00	20.80	762.0
56+52.56	19.09 to P.T.	761.4
57+00.00	——	761.2



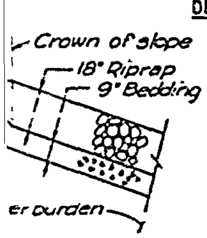
PLAN OF STILLING BASIN
SLOPE PROTECTION AND DRAINS



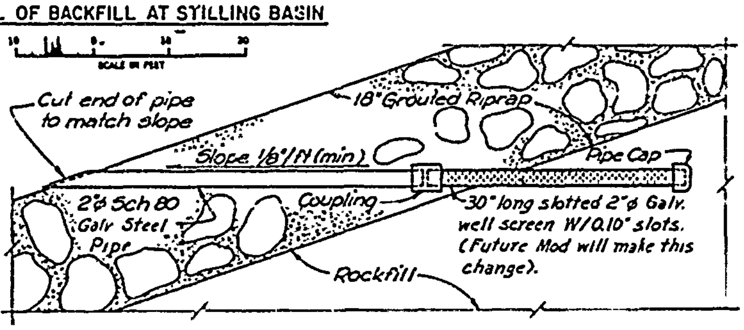
DETAIL OF BACKFILL AT STILLING BASIN



STILLING BASIN OUTLET DRAIN
INSTALLATION DETAIL
RIPRAP OVER BEDDING
Not to Scale



TERMINATION
PROTECTION
to Scale



STILLING BASIN OUTLET DRAIN

Symbol	Revisions: Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:

Drawn by:

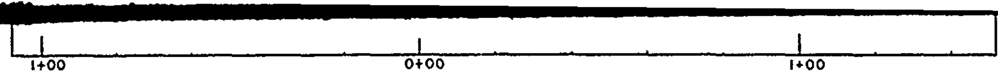
Checked by:

US Army Corps of Engineers

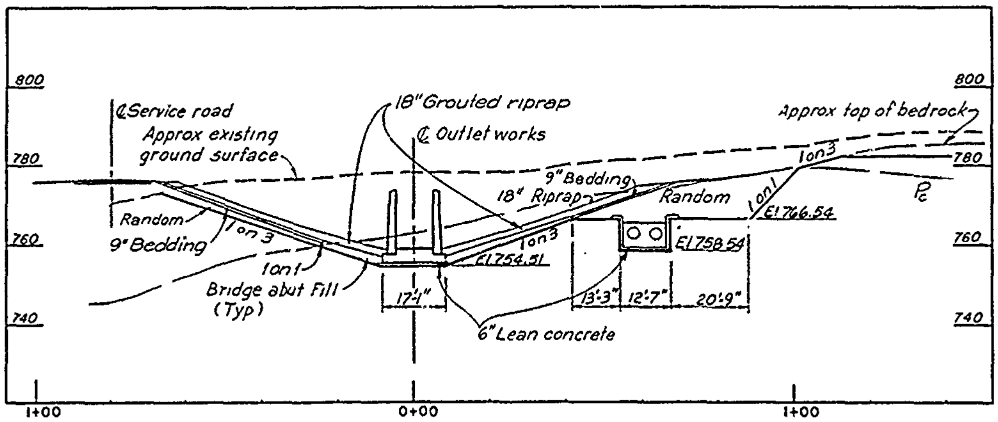
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

OUTLET WORKS SECTIONS AND DETAILS

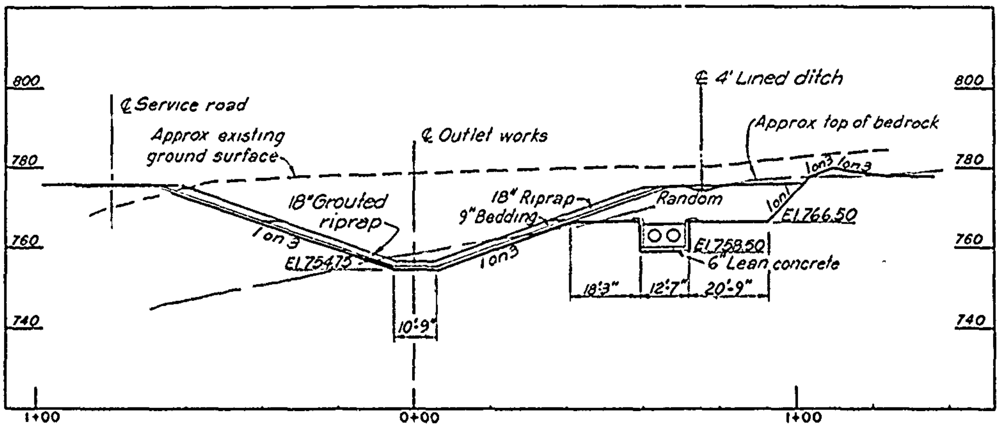
NATIONAL GEODETIC VERTICAL DATUM



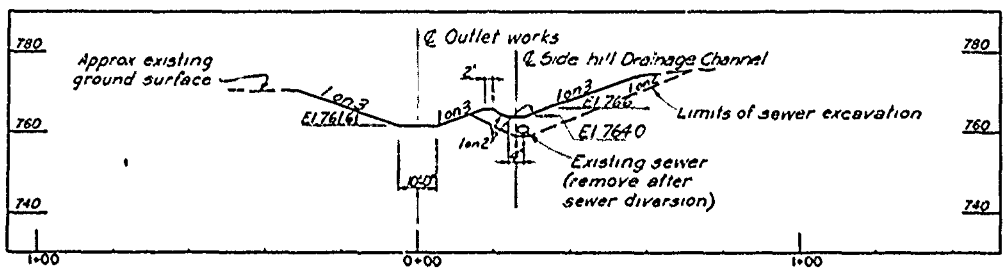
SECTION (K) STA.53+20
811|812



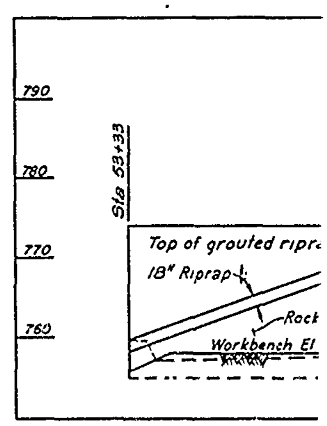
SECTION (L) STA.53+33
811|812



SECTION (M) STA.53+50
811|812



SECTION (N) STA 56+00
812|812



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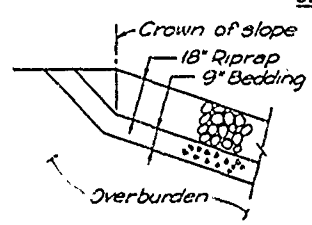


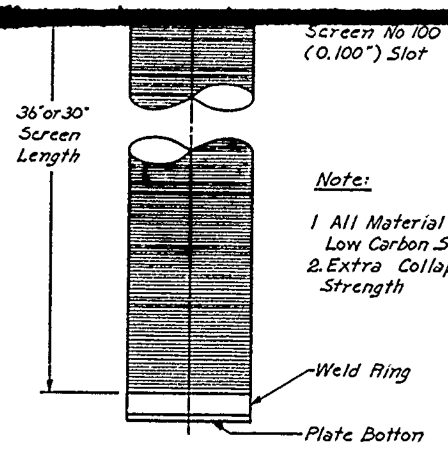
UPSLOPE TERMINATION OF SLOPE PROTECTION

Not to Scale

RECORD D

SEPTEMBER

CONTRACT NO. DACW



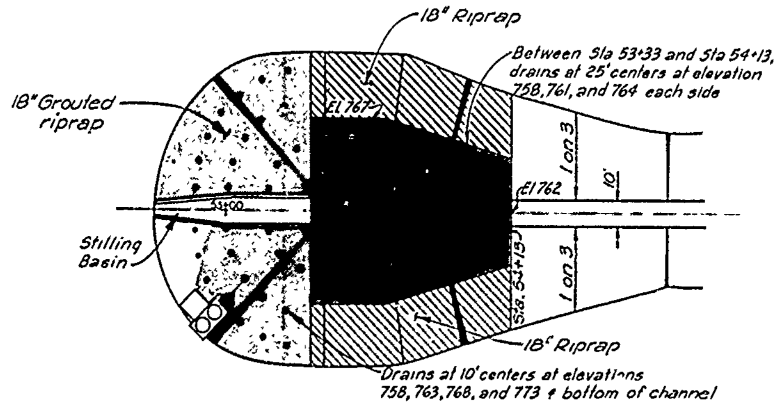
Note:

1. All Material Galv Low Carbon Steel
2. Extra Collapse Strength

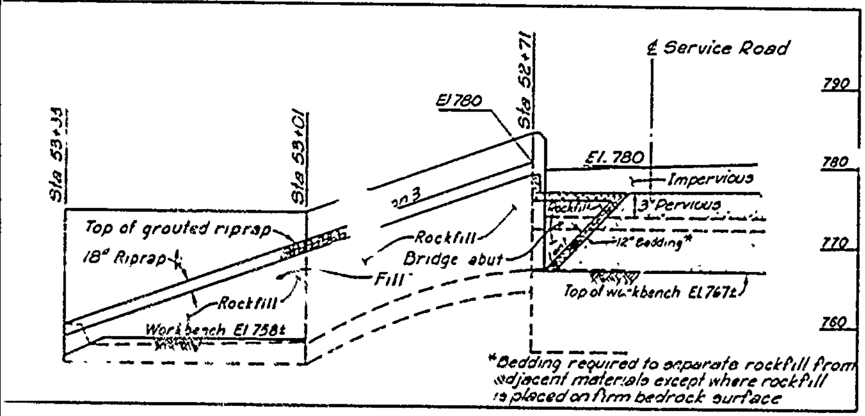
"For connecting the 4-foot-lined ditch to side-hill drainage channel, See Dwg B1 and B11."

DETAIL OF SIDE-HILL DRAINAGE CHANNEL
LOOKING DOWNSTREAM
Not to Scale

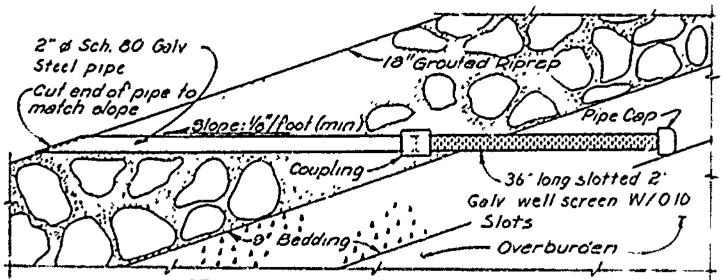
OUTLET WORKS ℄ STATION	RIGHT ANGLE OFFSET FROM TANGENT TO ℄ SIDE-DRAIN, FT.	SIDE DRAIN ELEVATION IN FT (NGVD)
55+20.00	37.18 to P.C.	768.0
55+60.00	31.75	766.0
56+00.00	26.36	764.0
56+40.00	20.80	762.0
56+52.56	19.09 to P.T.	761.4
57+00.00	——	761.2



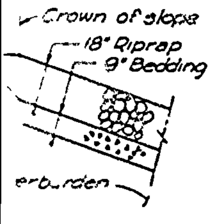
PLAN OF STILLING BASIN
SLOPE PROTECTION AND DRAINS



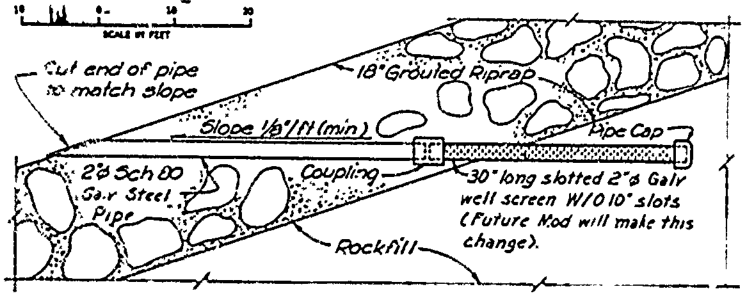
DETAIL OF BACKFILL AT STILLING BASIN



STILLING BASIN OUTLET DRAIN
INSTALLATION DETAIL
RIPRAP OVER BEDDING
Not to Scale



... TERMINATION
... E PROTECTION
... to Scale



STILLING BASIN OUTLET DRAIN
INSTALLATION DETAIL
RIPRAP OVER ROCKFILL
Not to Scale

RECORD DRAWING
SEPTEMBER 1988
CONTRACT NO. DACW 41-82-C-0198

Symbol	Descriptions	Date	Approved

Revisions

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:
Drawn by:
Checked by:
Submitted by:

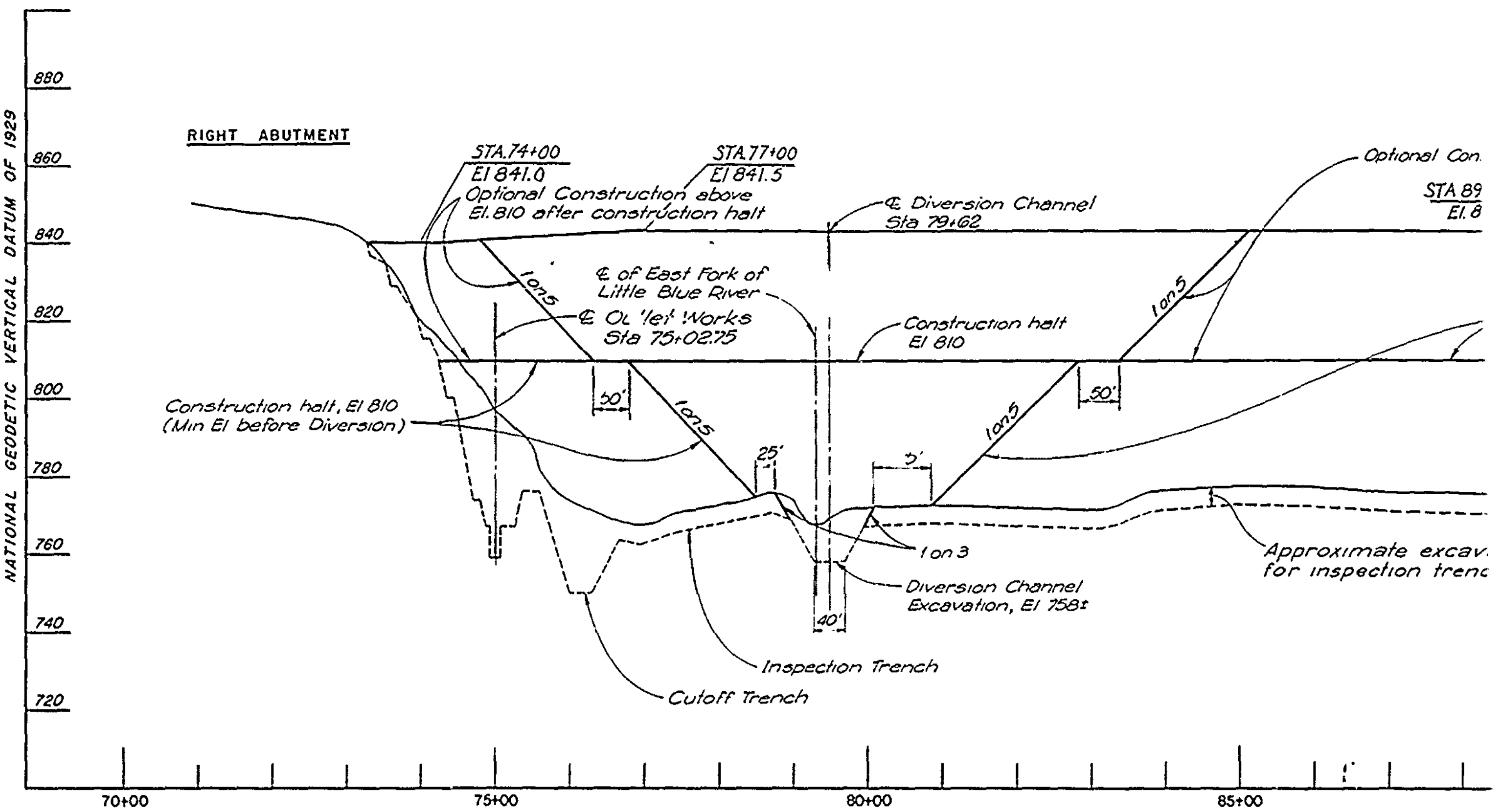
US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

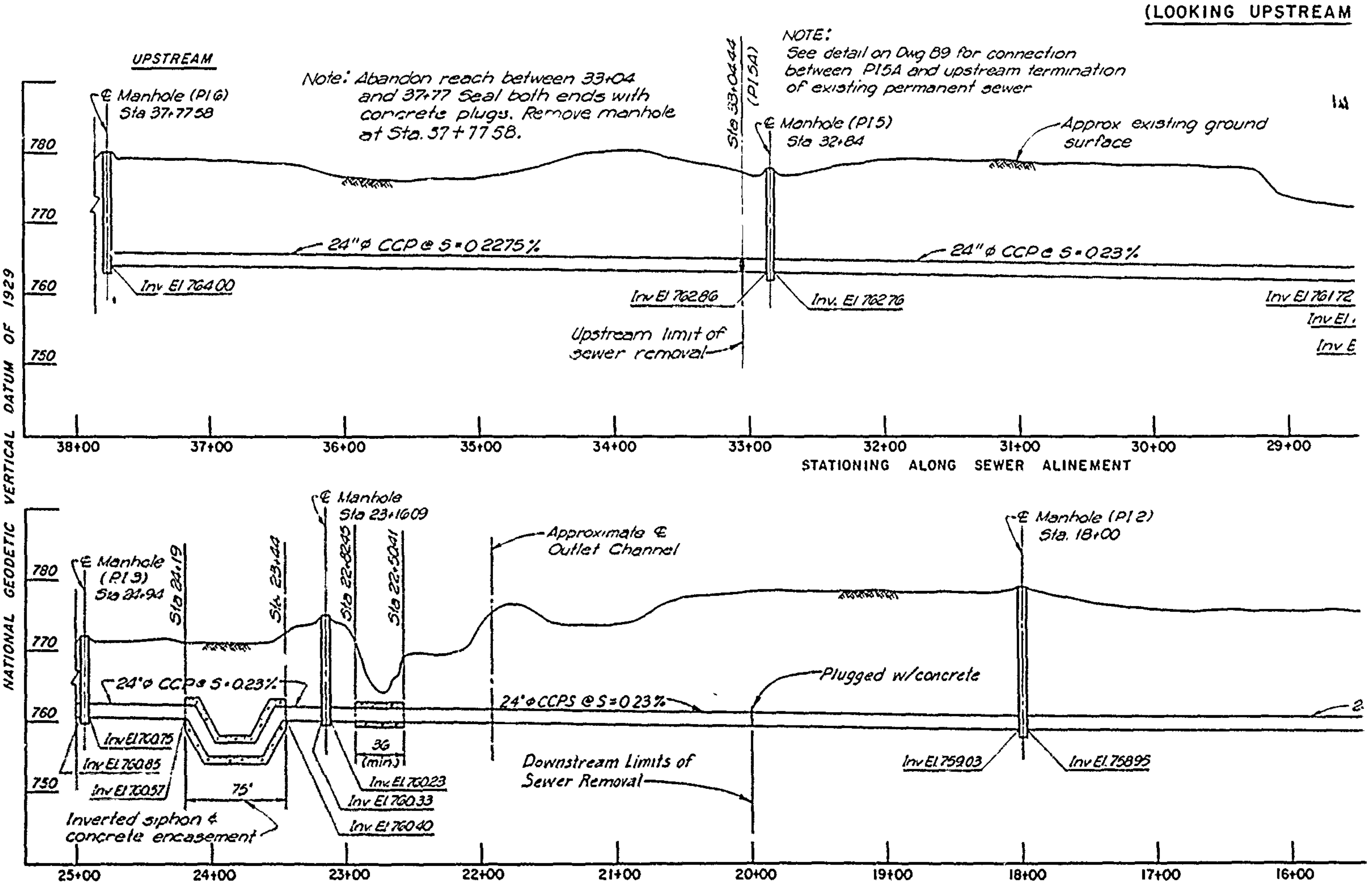
OUTLET WORKS SECTIONS AND DETAILS

Scale: AS SHOWN
Date: JUNE 1990
Sheet number: 14
Dwg. No.:
File No. RBL-2-1234

PLATE NO. 14



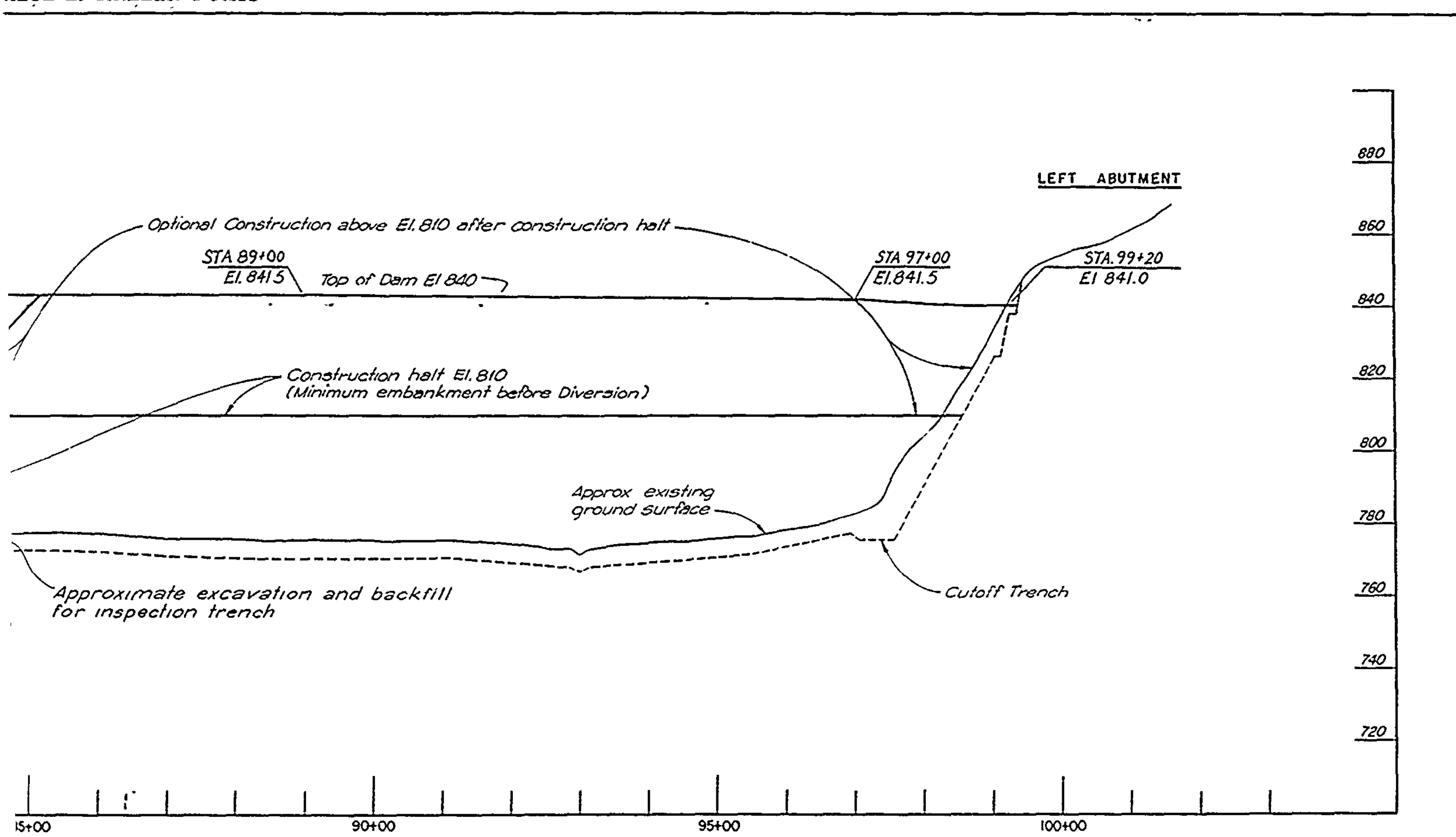
PROFILE ALONG ℄ DAM AND C
(LOOKING UPSTREAM



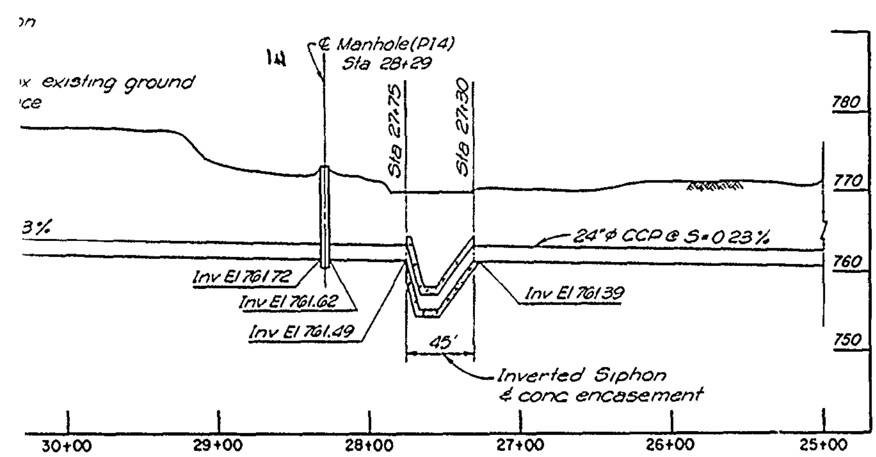
Note: All data for this profile obtained from Burns & McDonnell Plan & Profile drawings No. 6-1 and 7-1 of Contract No. C-3, dated August 7, 1978.

EXISTING TEMPORARY SEWER PROFILE

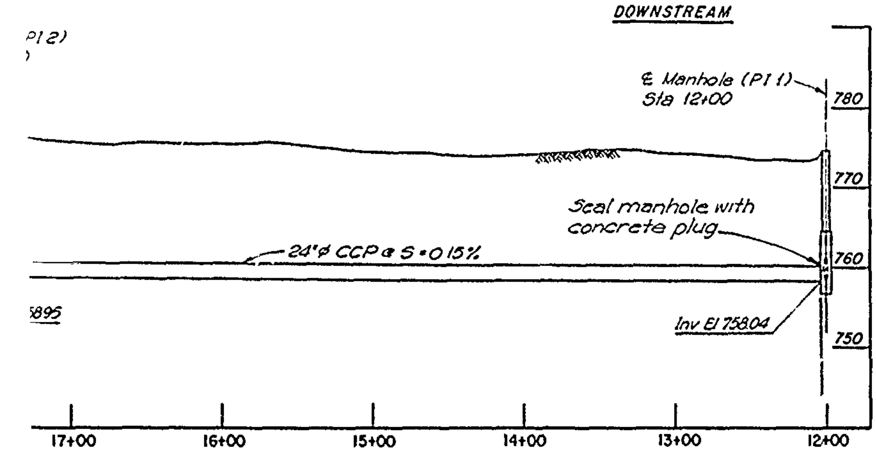
ALUE ENGINEERING PAYS



ALONG ℄ DAM AND CUTOFF TRENCH
(LOOKING UPSTREAM)



DOWNSTREAM



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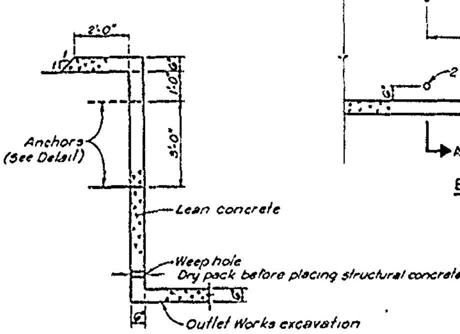
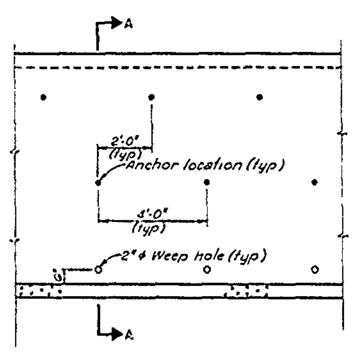
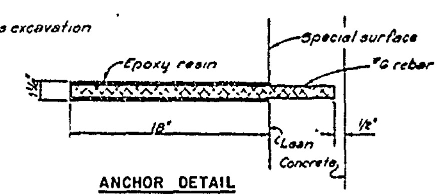


SECTION A-A



ELEVATION



ANCHOR DETAIL

SPECIAL SURFACE AND BEARING SURFACE PROTECTION
LEAN CONCRETE DETAILS FOR
INTAKE TOWER AND OUTLET WORKS

N.T.S.

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:

US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

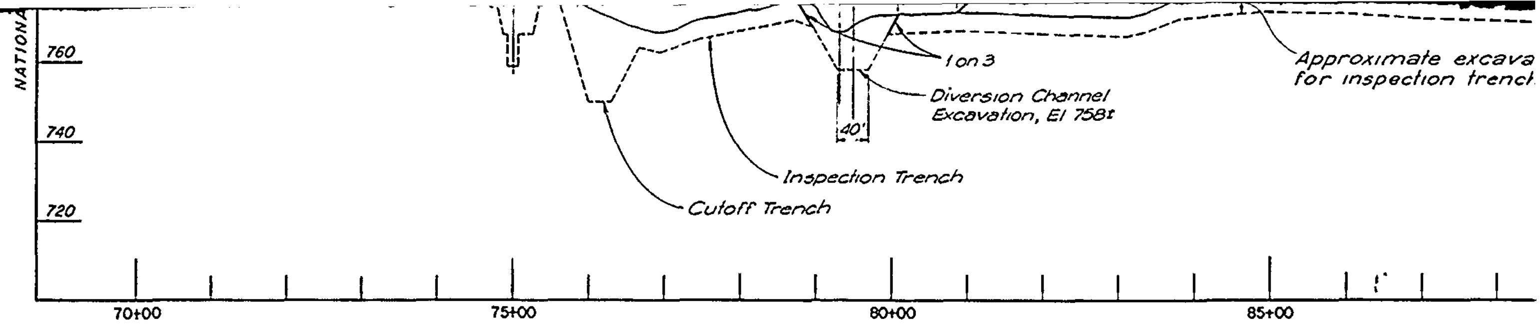
Drawn by:

DAM AXIS AND TEMPORARY SEWER
PROFILES AND ANCHOR DETAILS

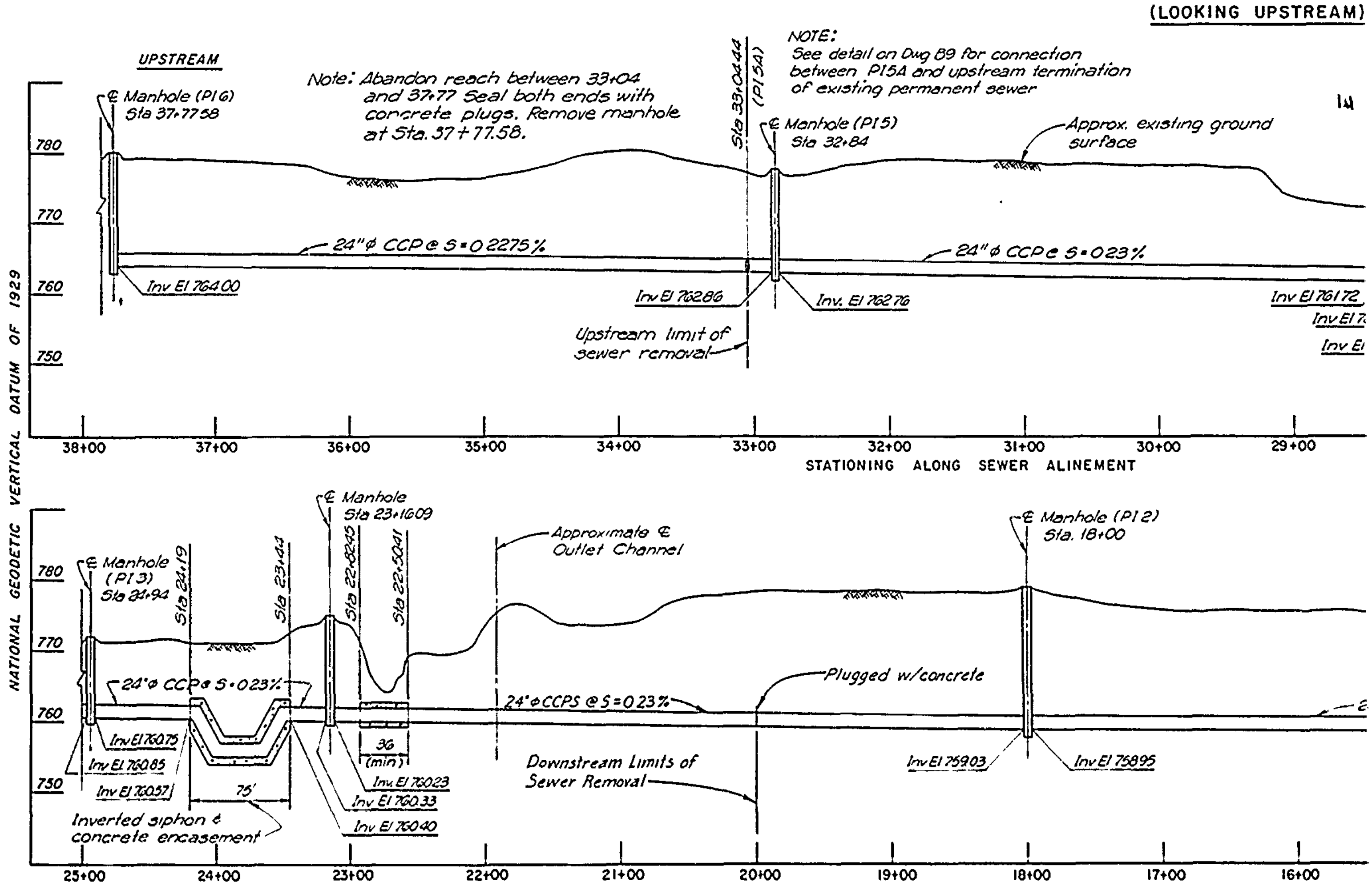
Checked by:

Scale: AS SHOWN

Sheet number

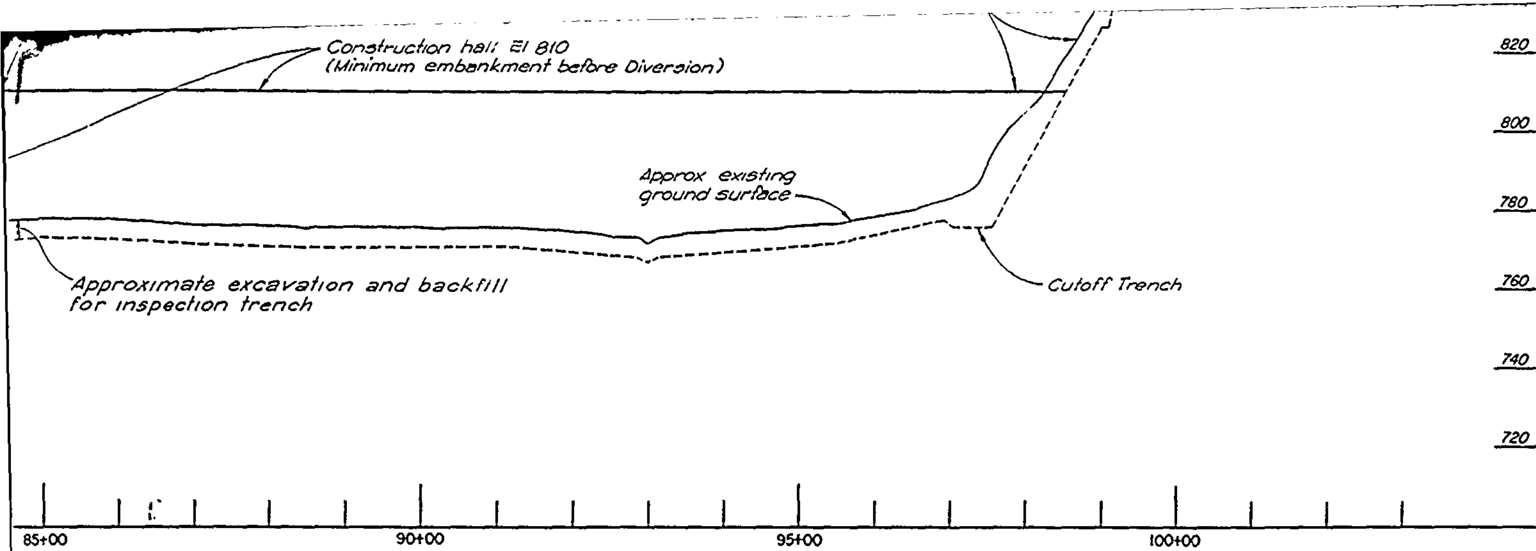


PROFILE ALONG ℄ DAM AND C
(LOOKING UPSTREAM)

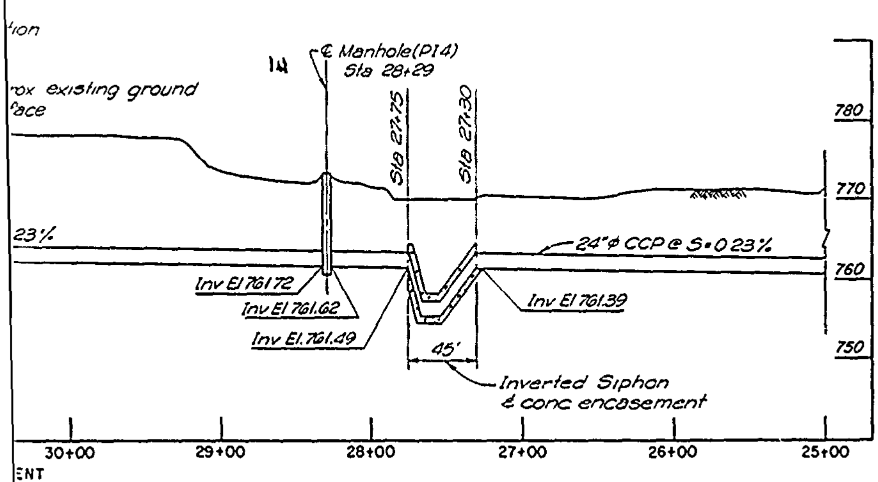


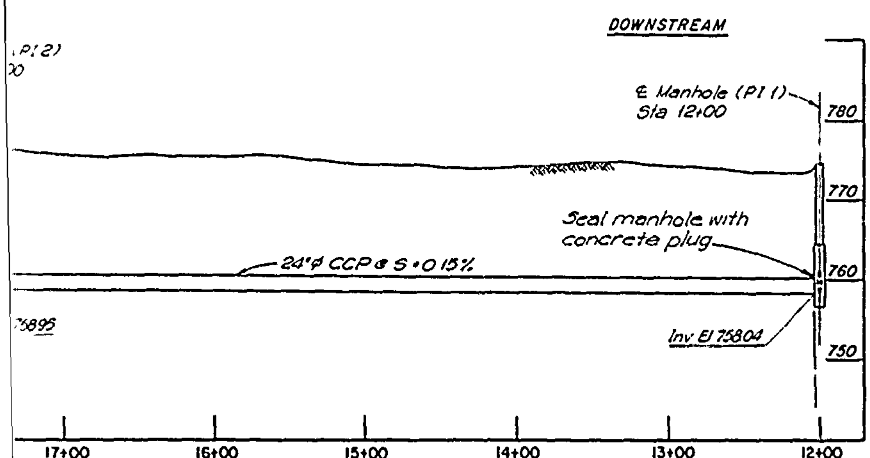
Note: All data for this profile obtained from Burns & McDonnell Plan & Profile drawings No 6-1 and 7-1 of Contract No 3, dated August 7, 1978.

EXISTING TEMPORARY SEWER PROFILE

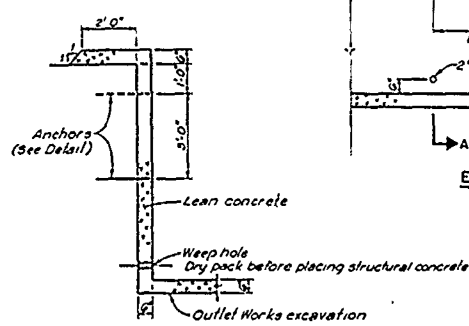


E ALONG ℄ DAM AND CUTOFF TRENCH
(LOOKING UPSTREAM)

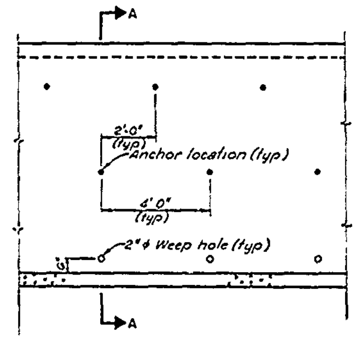




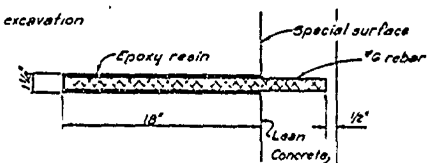
ROFILE



SECTION A-A



ELEVATION



ANCHOR DETAIL

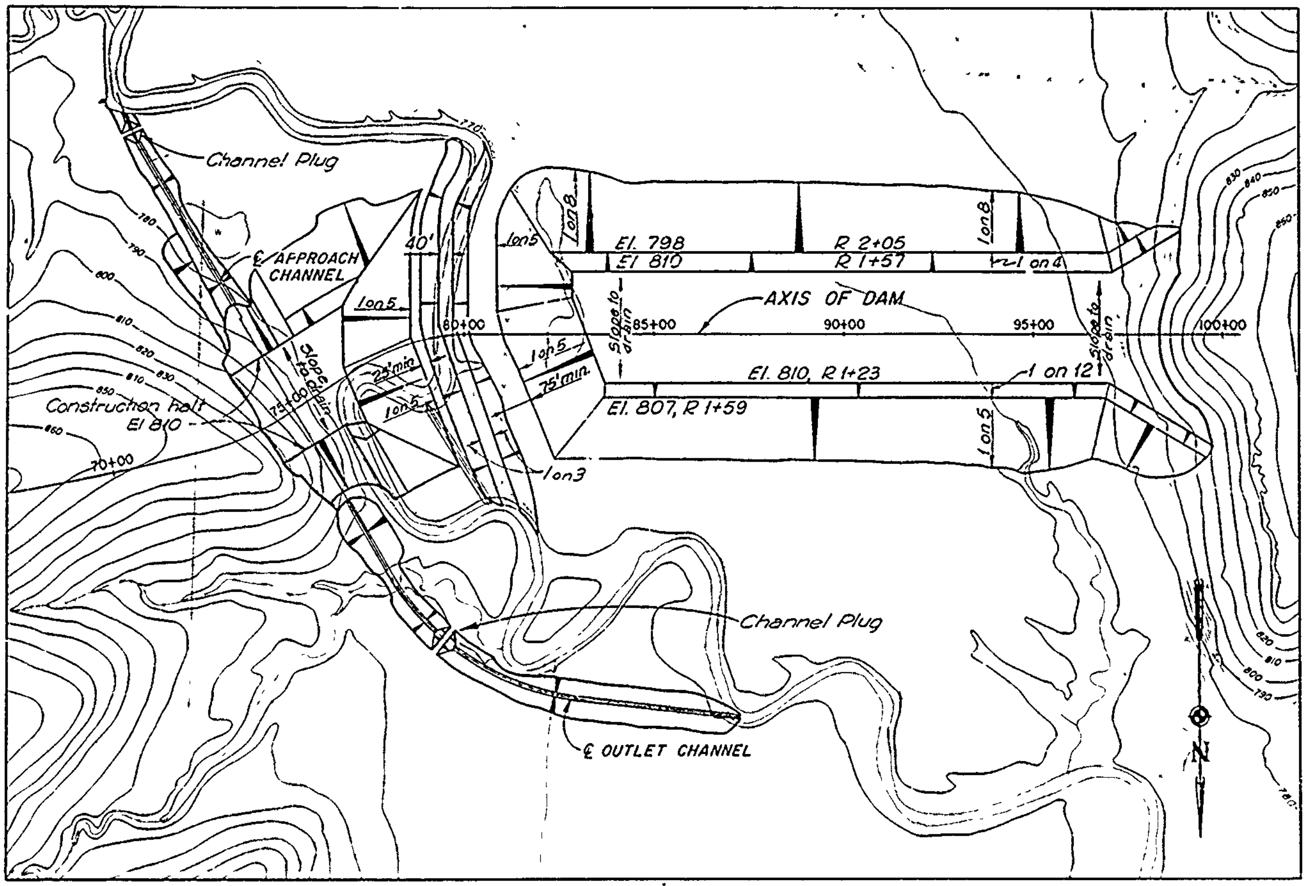
SPECIAL SURFACE AND BEARING SURFACE PROTECTION
LEAN CONCRETE DETAILS FOR
INTAKE TOWER AND OUTLET WORKS
NTS

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:	US Army Corps of Engineers EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT		
Drawn by:	DAM AXIS AND TEMPORARY SEWER PROFILES AND ANCHOR DETAILS		
Checked by:	Scale. AS SHOWN	Sheet number: 15	
Submitted by:	Date. JUNE 1990		
	Dwg No.:		File No.: RBL-2-1235

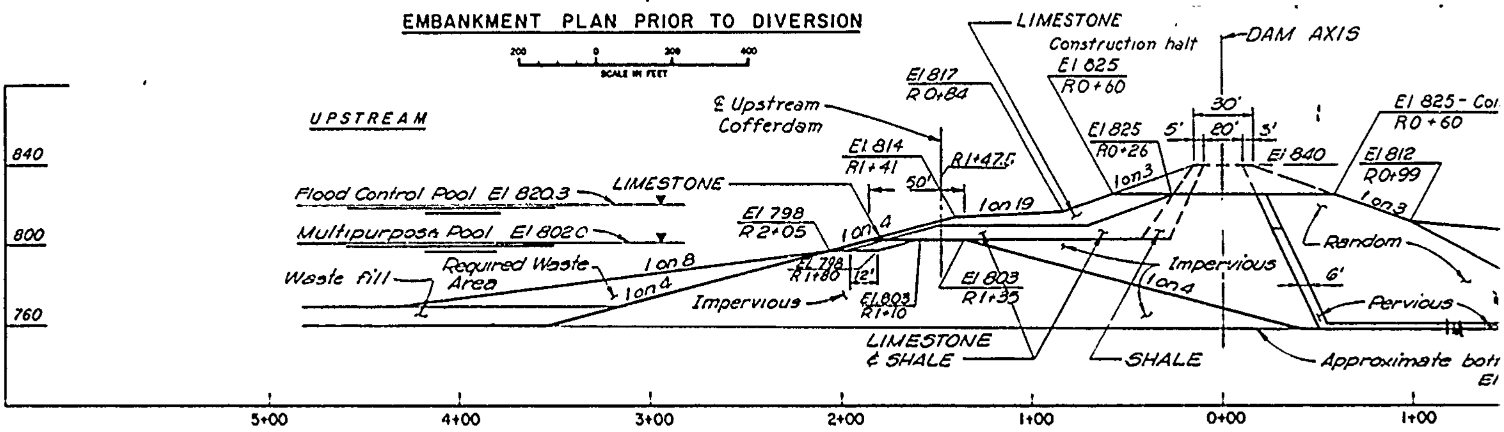
PLATE NO. 15



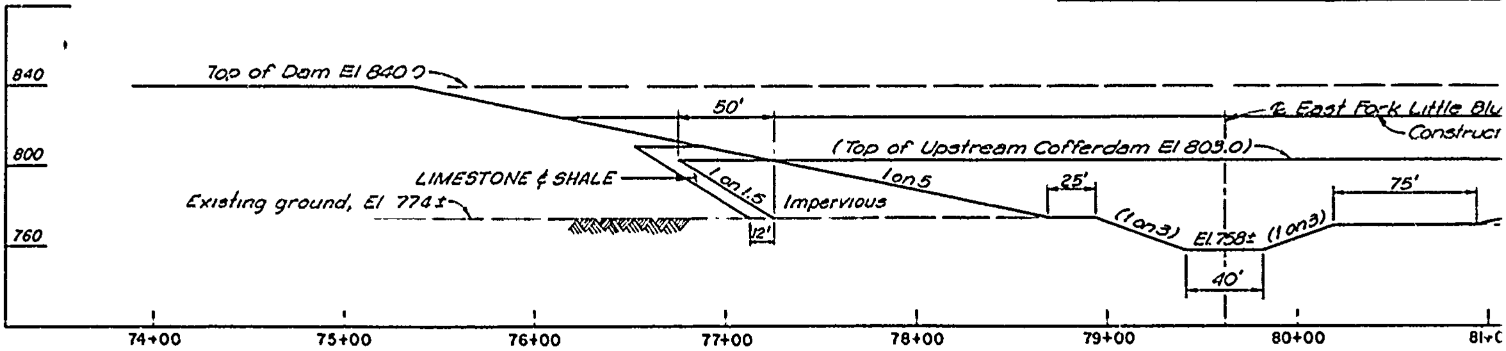
EMBANKMENT PLAN PRIOR TO DIVERSION

SCALE IN FEET

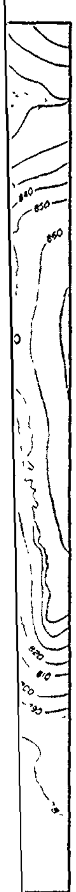
ELEVATION IN FEET BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929



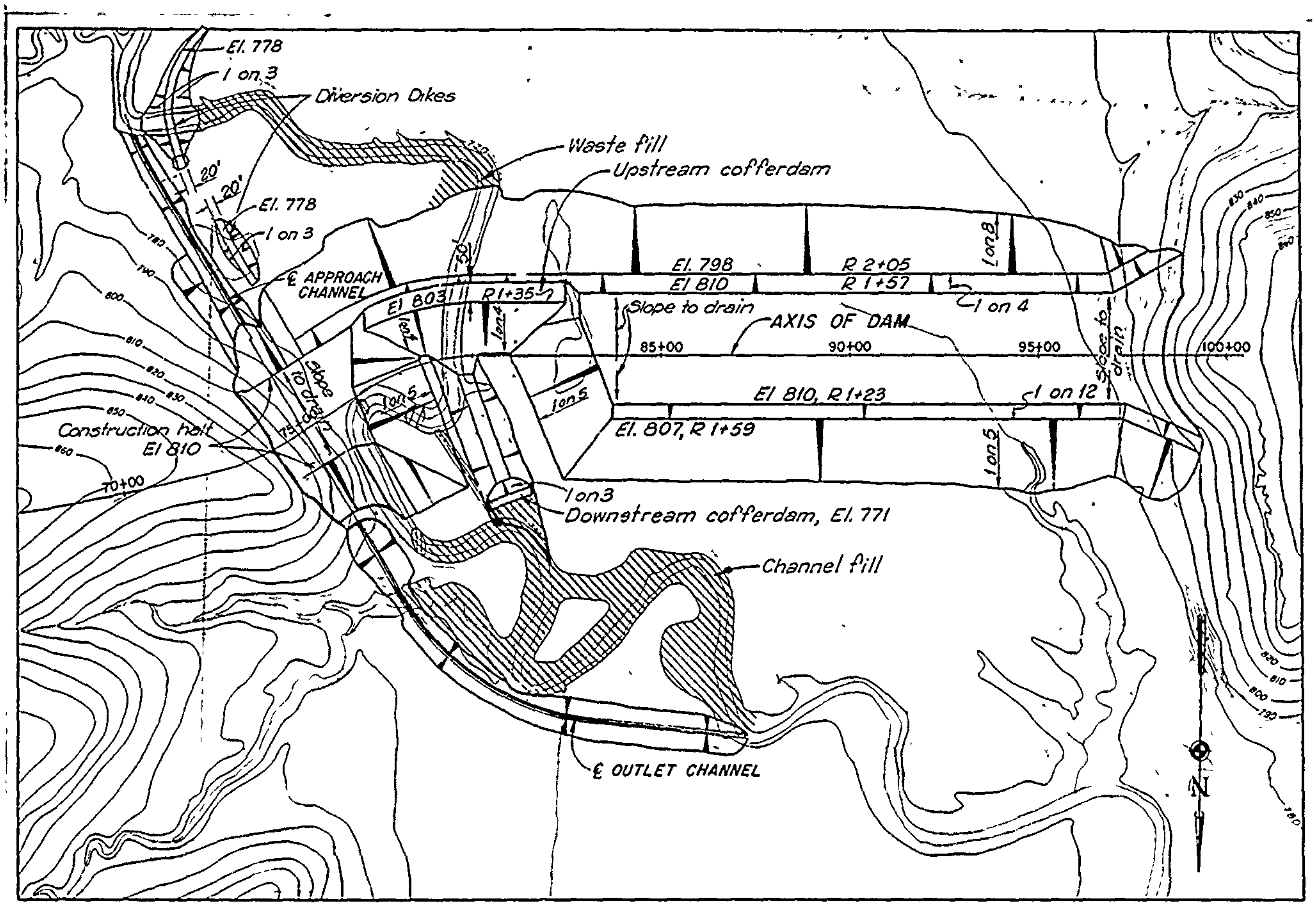
CLOSURE SECTION ALONG CENTERLINE (



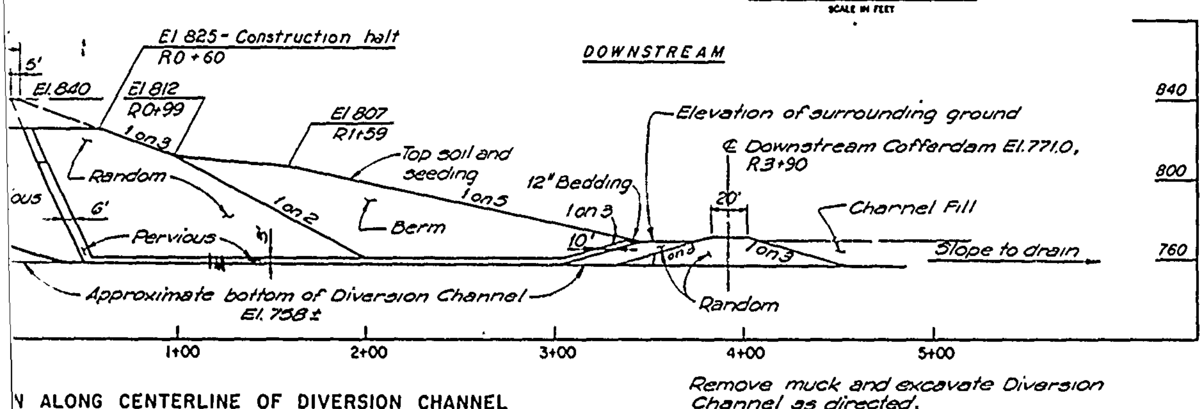
CLOSURE AREA PROFILE - LOOKING UPSTREAM -



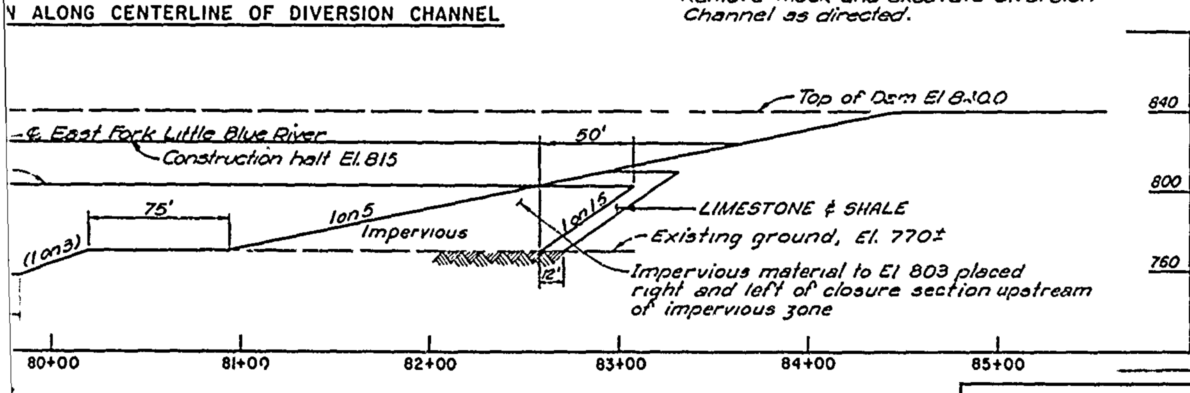
-DAM AXIS



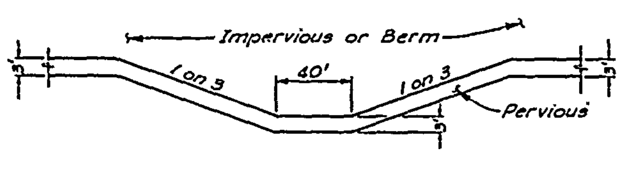
EMBANKMENT PLAN AFTER DIVERSION



N ALONG CENTERLINE OF DIVERSION CHANNEL



LOOKING UPSTREAM - ℄ COFFERDAM



SECTION ACROSS DIVERSION CHANNEL

Revisions			
Symbol	Descriptions	Date	Approved

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:

Drawn by:

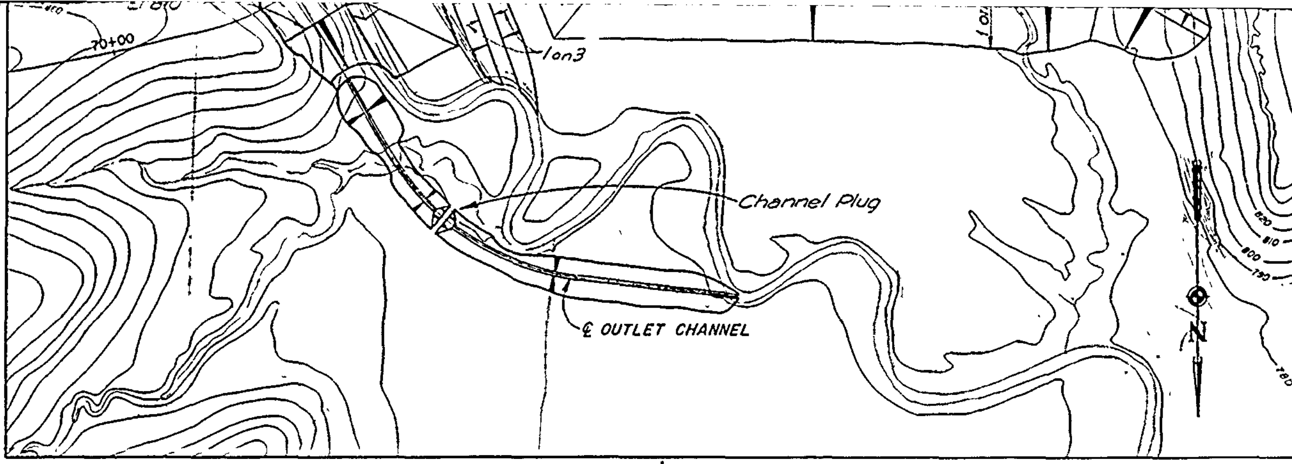
Checked by:

US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

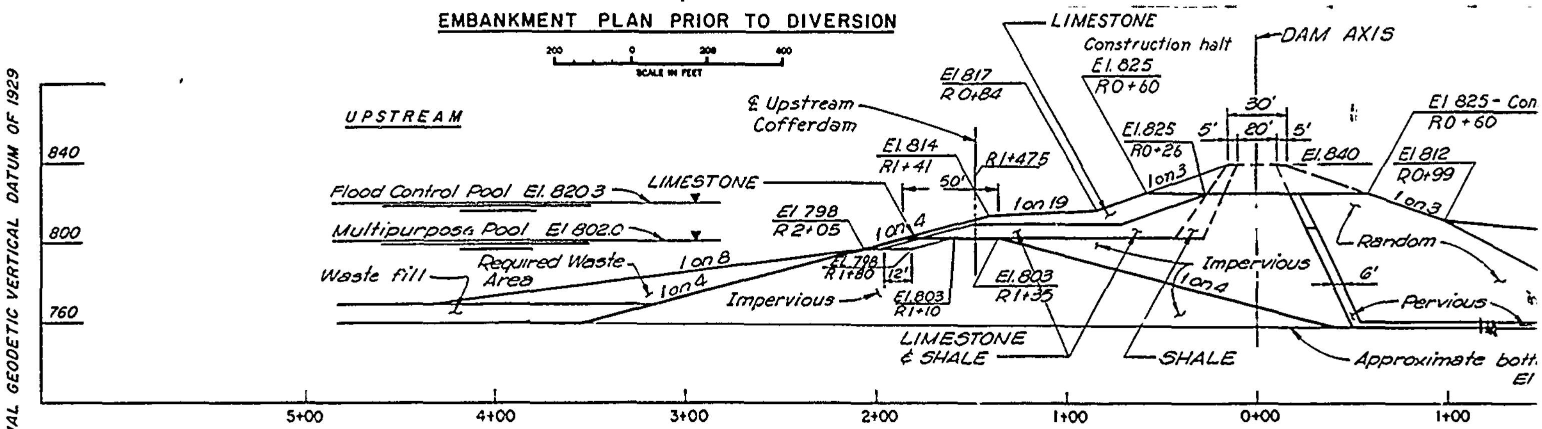
DIVERSION AND CLOSURE DETAILS

Scale | Sheet

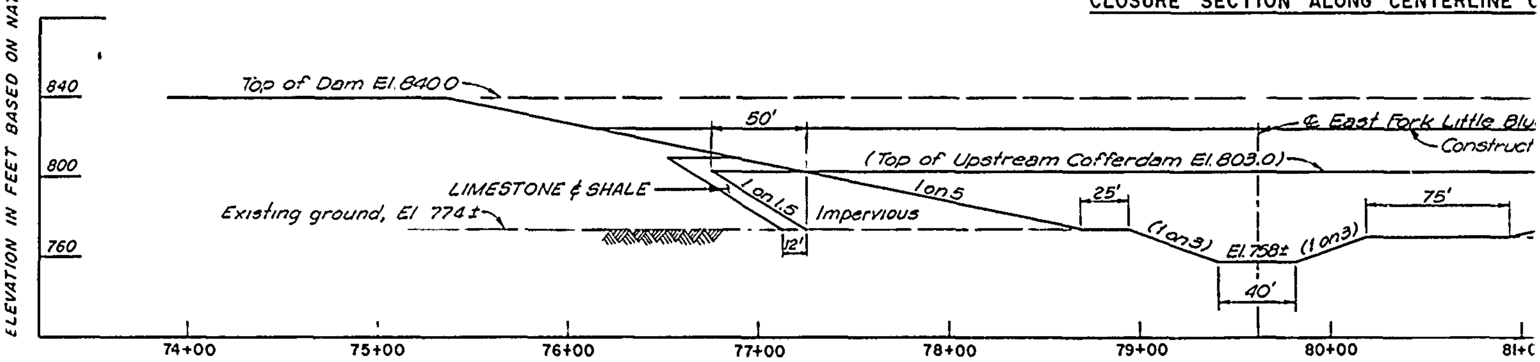


EMBANKMENT PLAN PRIOR TO DIVERSION

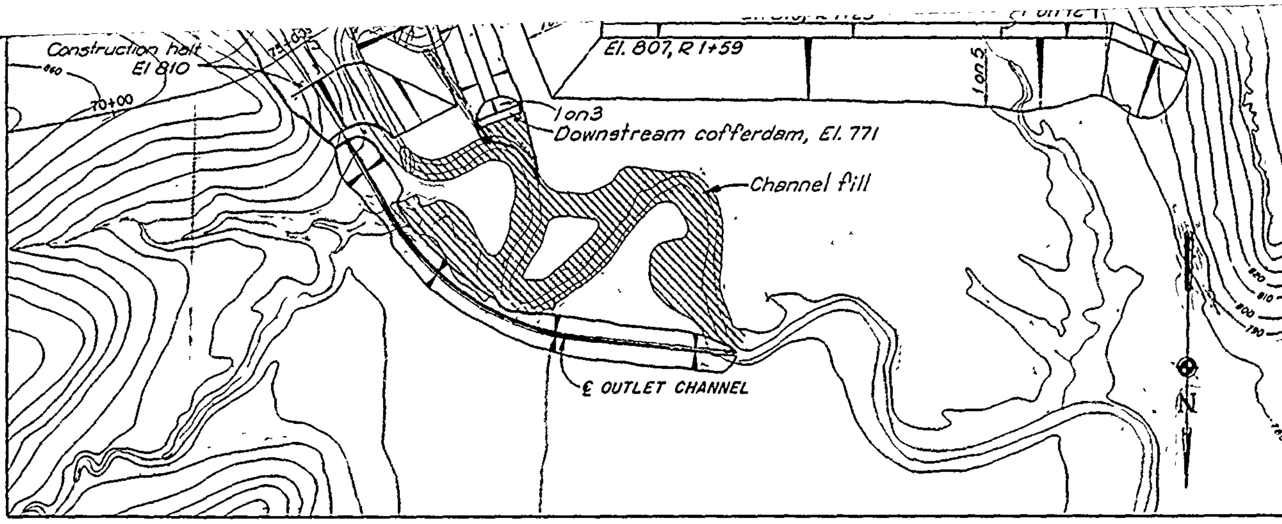
SCALE IN FEET



CLOSURE SECTION ALONG CENTERLINE C



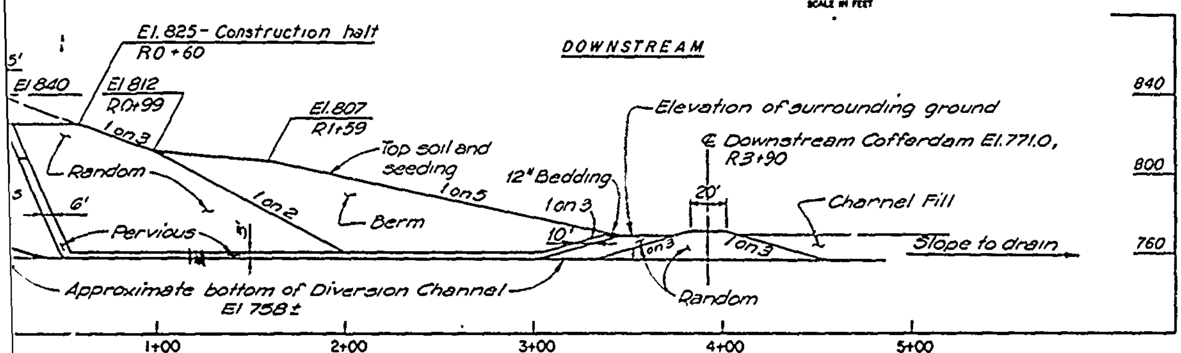
CLOSURE AREA PROFILE - LOOKING UPSTREAM -



EMBANKMENT PLAN AFTER DIVERSION

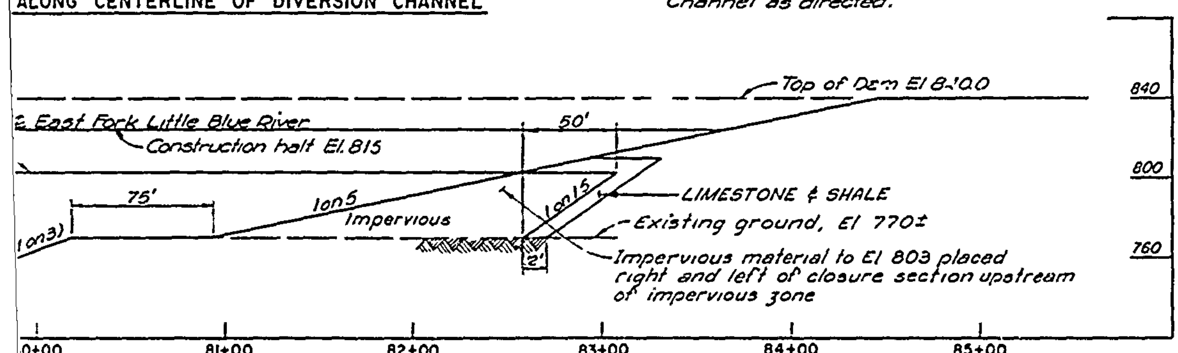
SCALE IN FEET

AM AXIS

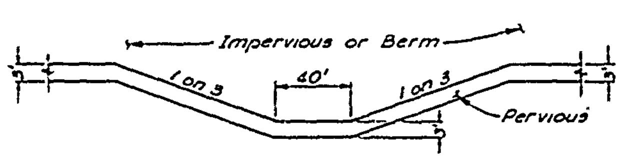


ALONG CENTERLINE OF DIVERSION CHANNEL

Remove muck and excavate Diversion Channel as directed.



OOKING UPSTREAM - ℄ COFFERDAM



SECTION ACROSS DIVERSION CHANNEL
LOOKING DOWNSTREAM
Not to Scale

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

US Army Corps of Engineers

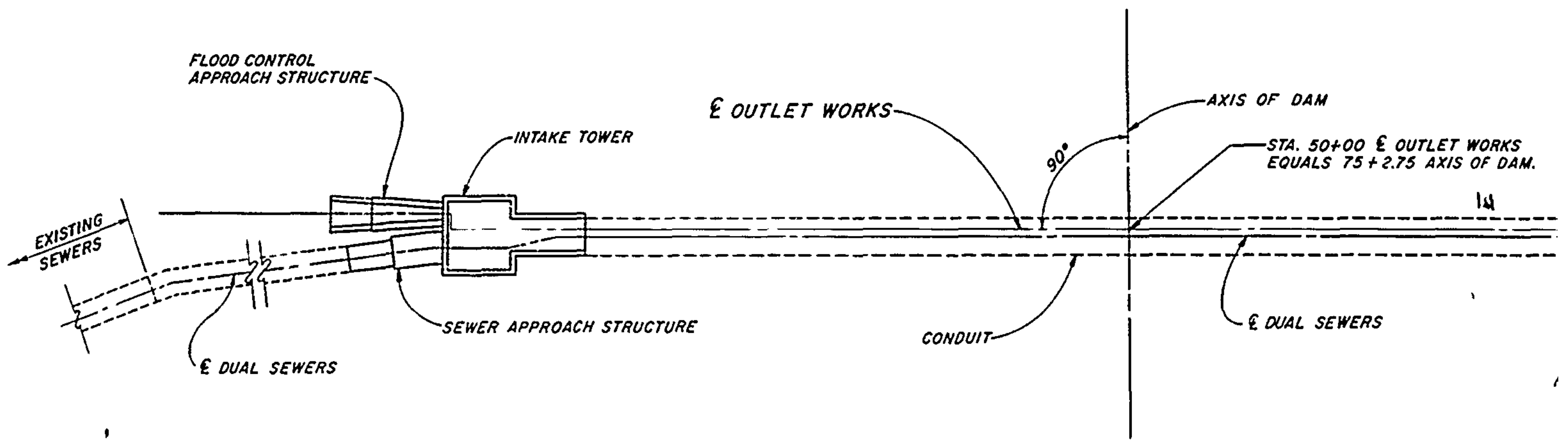
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

DIVERSION AND CLOSURE DETAILS

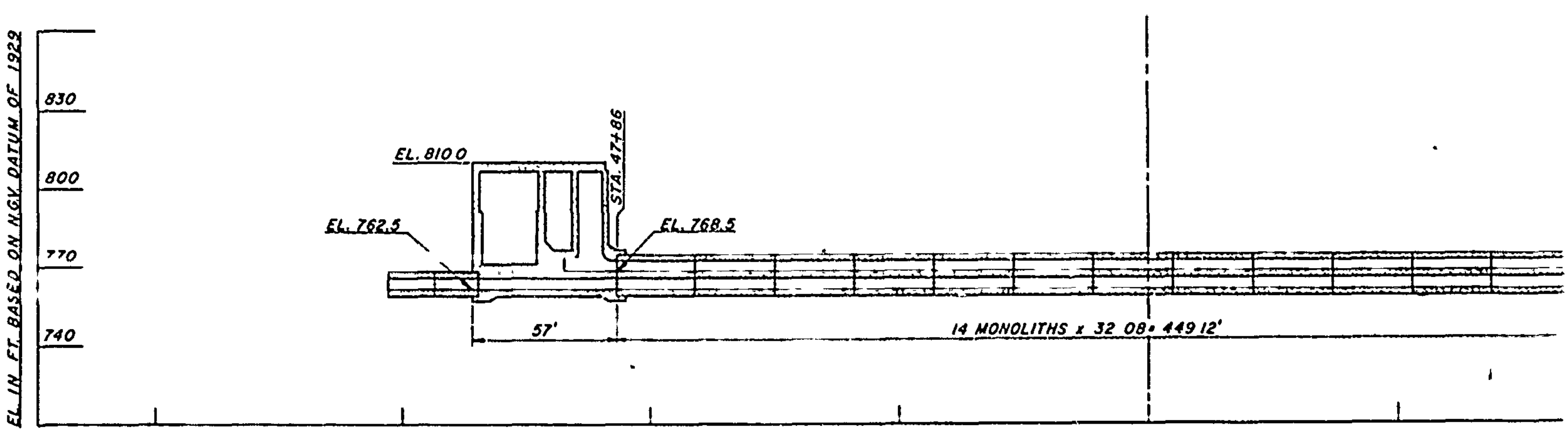
Designed by:
Drawn by:
Checked by:
Submitted by:

Scale: AS SHOWN
Sheet Number: 16
Date: JUNE 1990
Dwg. No.:
File No.: RBL-2-1236

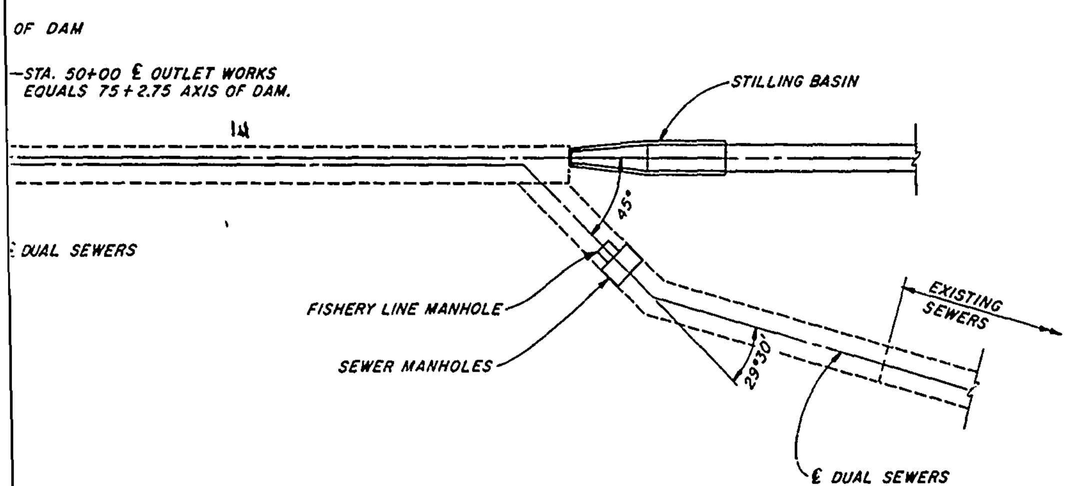
16

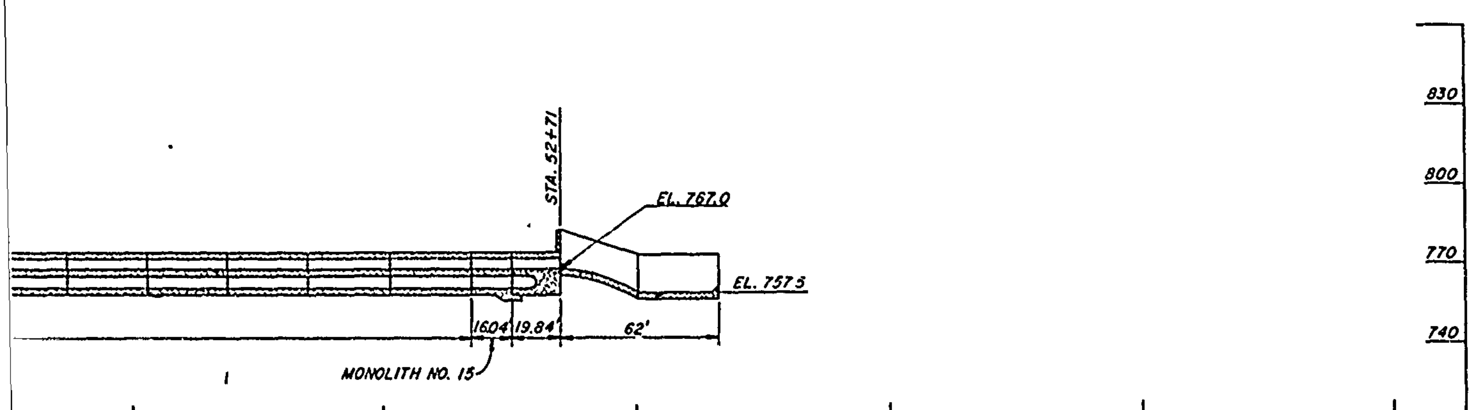


PLAN



SECTION THRU OUTLET WORKS





KS

NOTE:
EMBANKMENT NOT SHOWN.
SEE DWG. B8

REFERENCE DWGS.	DWG. NO.
INTAKE TOWER	J1
CONDUIT	P1
STILLING BASIN	R1
APPROACH STRUCTURE (SEWER)	H1
APPROACH STRUCTURE (FLOOD CONTROL)	H3
DOWNSTREAM SEWER	Q1

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:

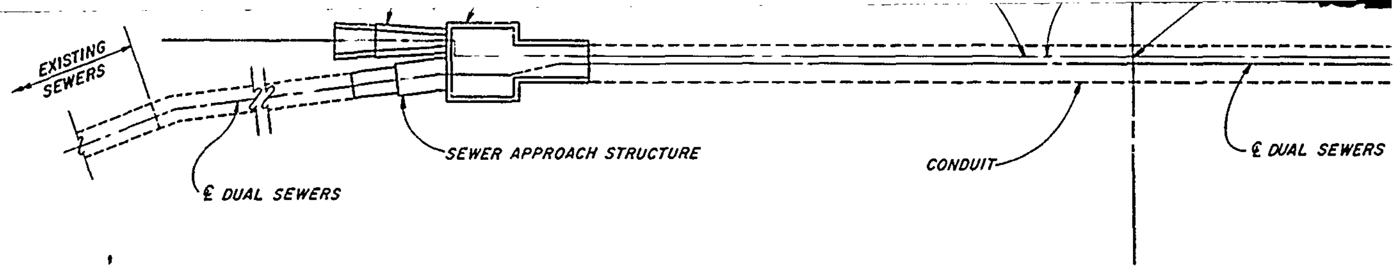
Drawn by:

Checked by:

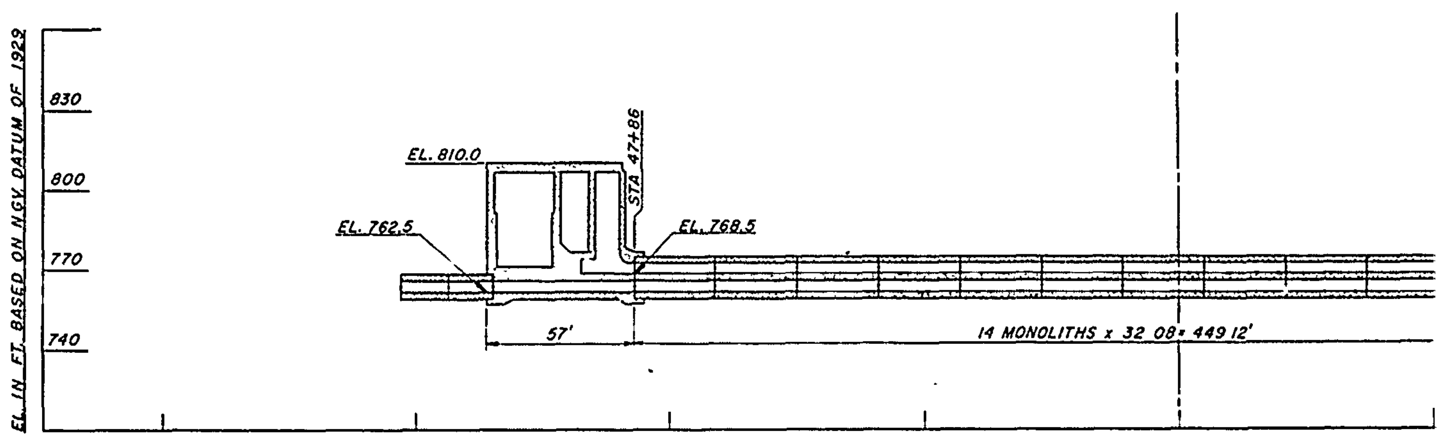
US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

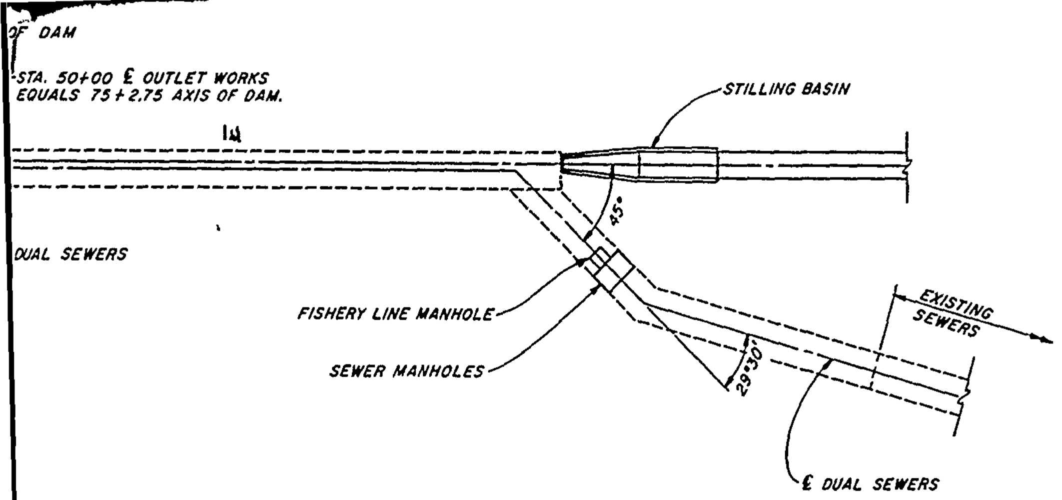
OUTLET WORKS - PLAN AND PROFILE

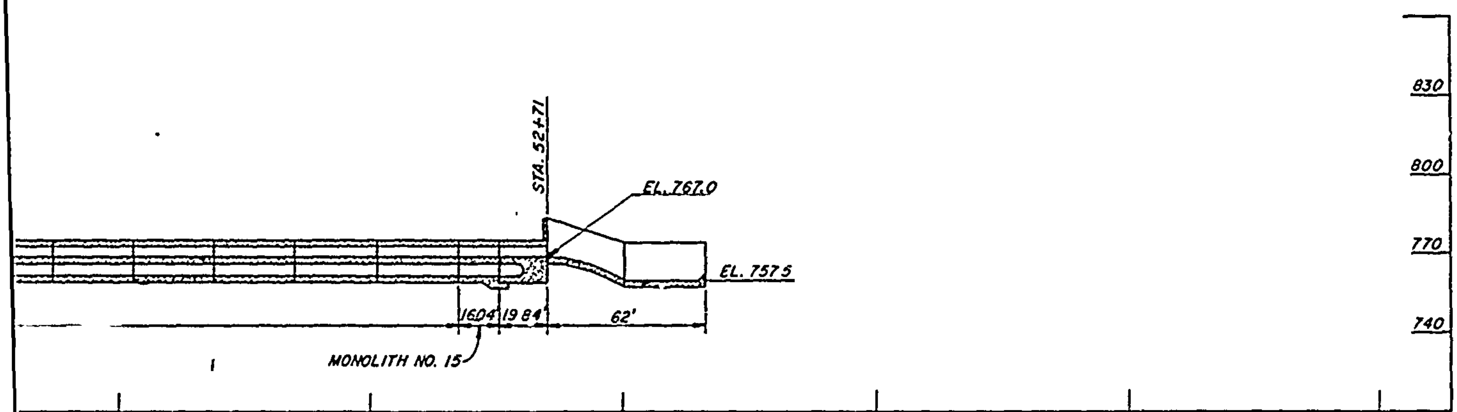


PLAN



SECTION THRU OUTLET WORKS





NOTE:
EMBANKMENT NOT SHOWN.
SEE DWG. B8

REFERENCE DWGS	DWG NO
INTAKE TOWER	J1
CONDUIT	P1
STILLING BASIN	R1
APPROACH STRUCTURE (SEWER)	H1
APPROACH STRUCTURE (FLOOD CONTROL)	H3
DOWNSTREAM SEWER	O1

Revisions			
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U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:
Drawn by:
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Submitted by:

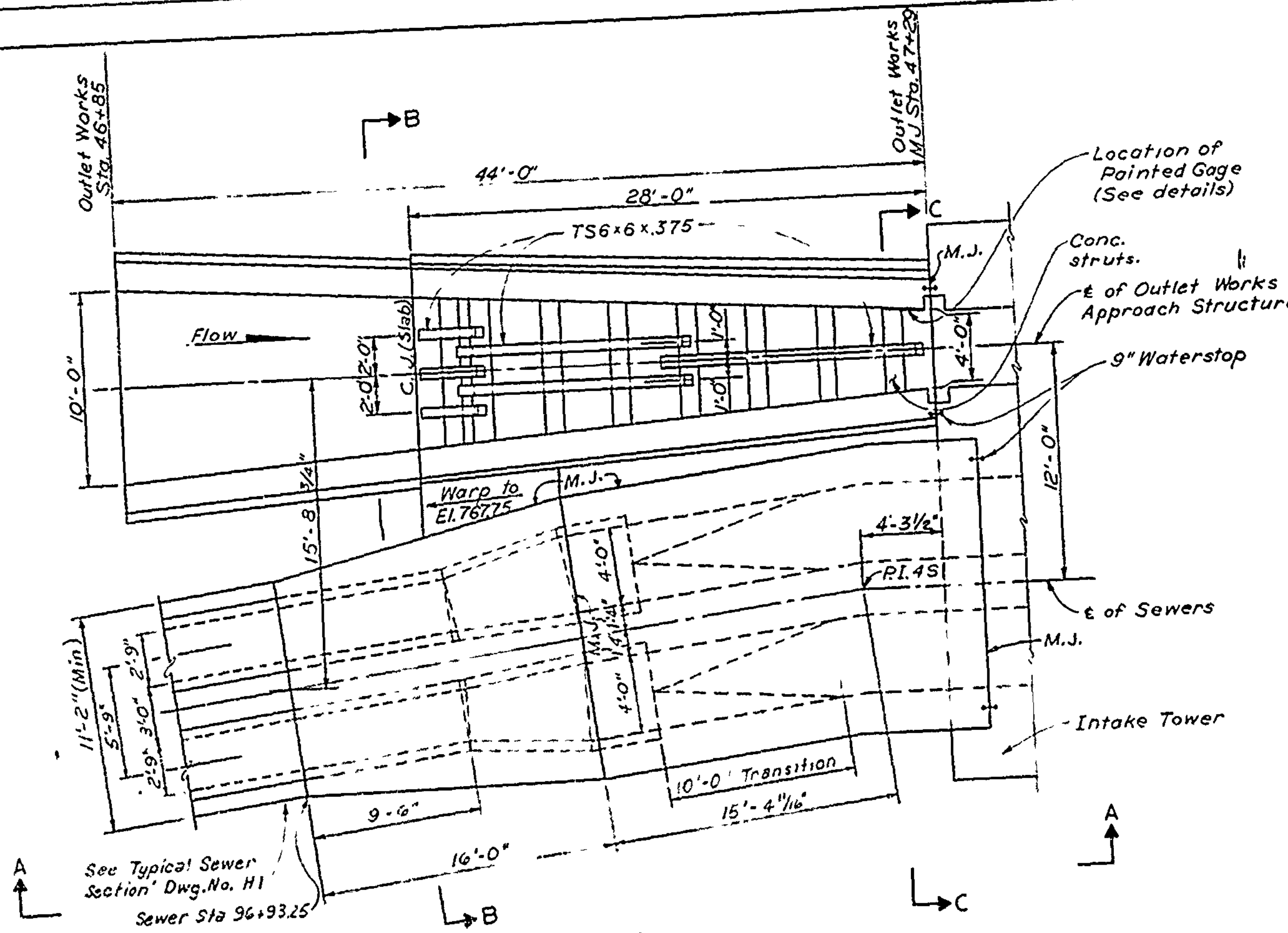
US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

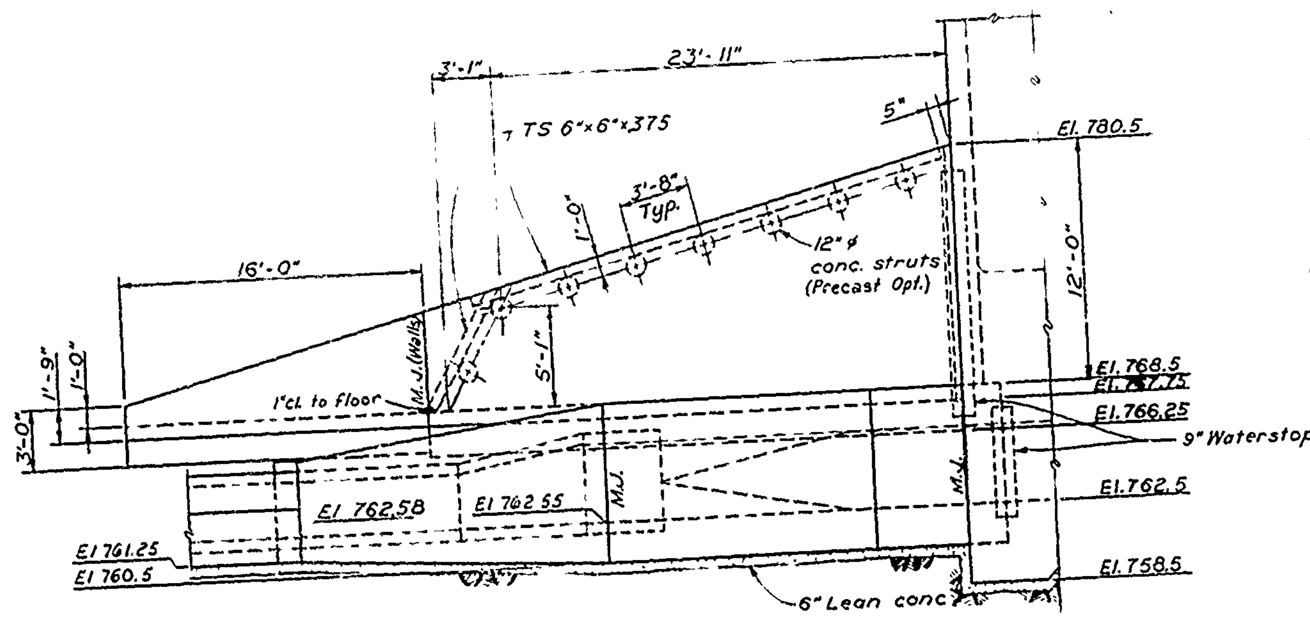
OUTLET WORKS - PLAN AND PROFILE

Scale	AS SHOWN	Sheet number	17
Date	JUNE 1990		
Dwg. No.:		File No.	RBL-2-1237

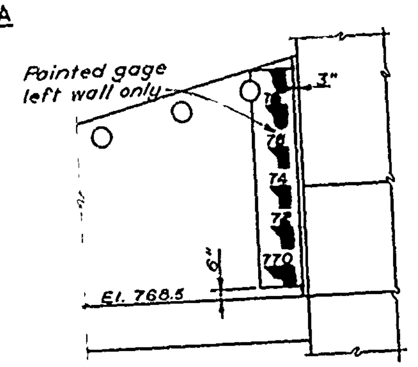
PLATE NO. 17



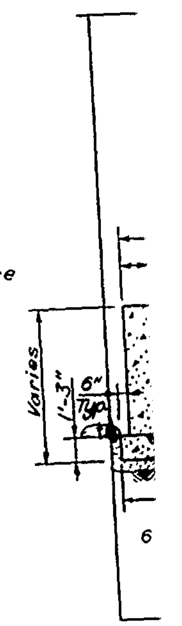
PLAN

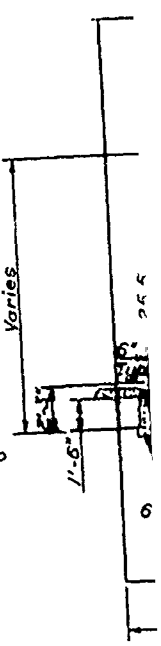


ELEVATION A



Note:
For more information on painted gages see "Tile Gage Details" on Dwg. J1.





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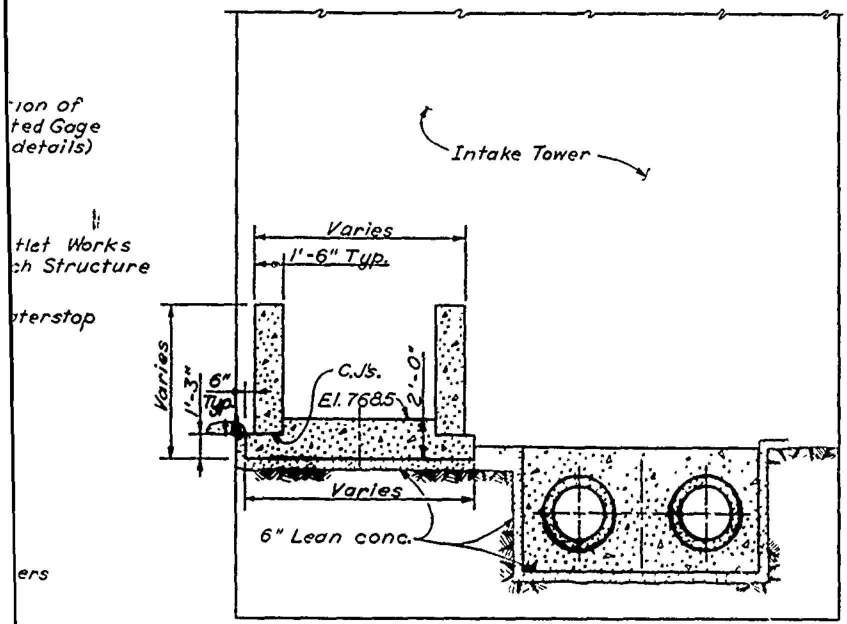
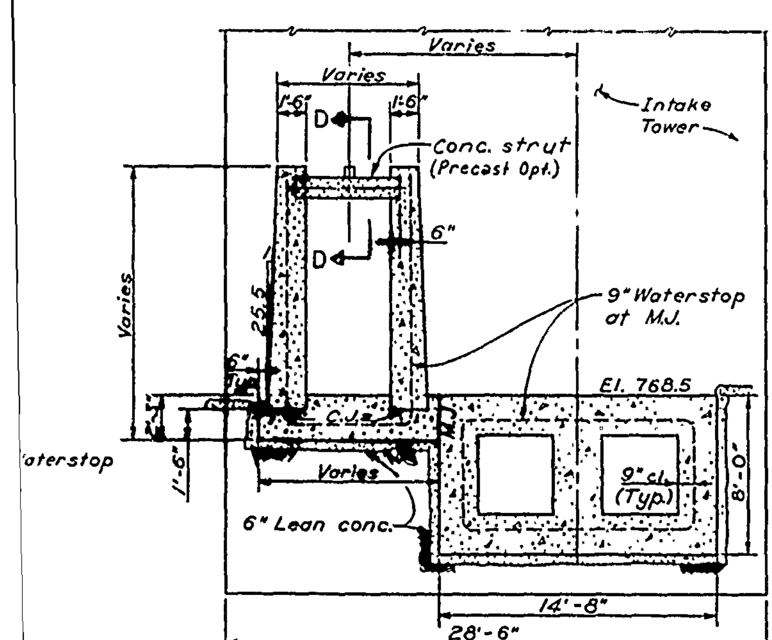
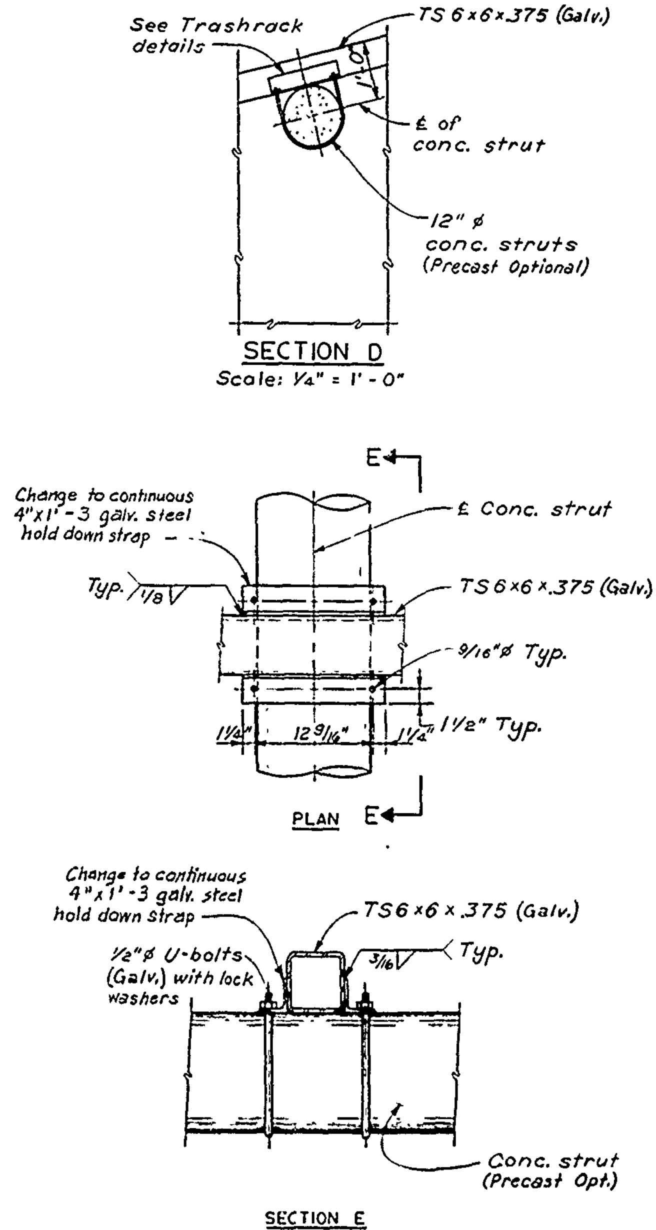


SECTION B



SECTION C



TRASHRACK DETAILS

Scale: 1 1/2" = 1'-0"

GENERAL NOTES - APPROACH STRUCTURE

1. M.J. = Monolith joint. - Painted
2. C.J. = Construction joint.
3. Reinforcement is not continuous through Monolith joints.
4. Reinforcement is continuous through Construction joint.
5. Clear distance of reinforcement from waterstop shall be 2 1/2".

REFERENCE DWG.	DWG. NO.
RUBBER WATERSTOP	P2
INTAKE TOWER	J3

Revisions

Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

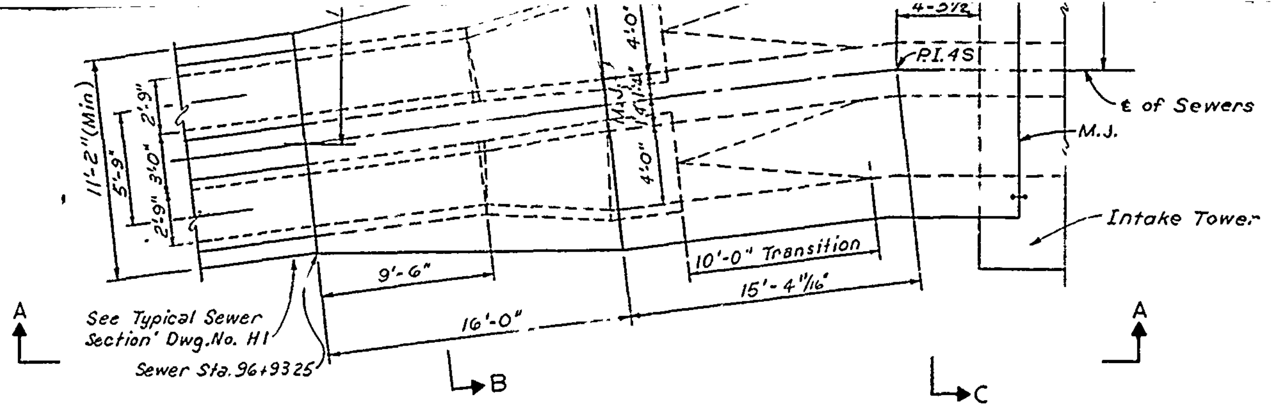
Designed by:

Drawn by:

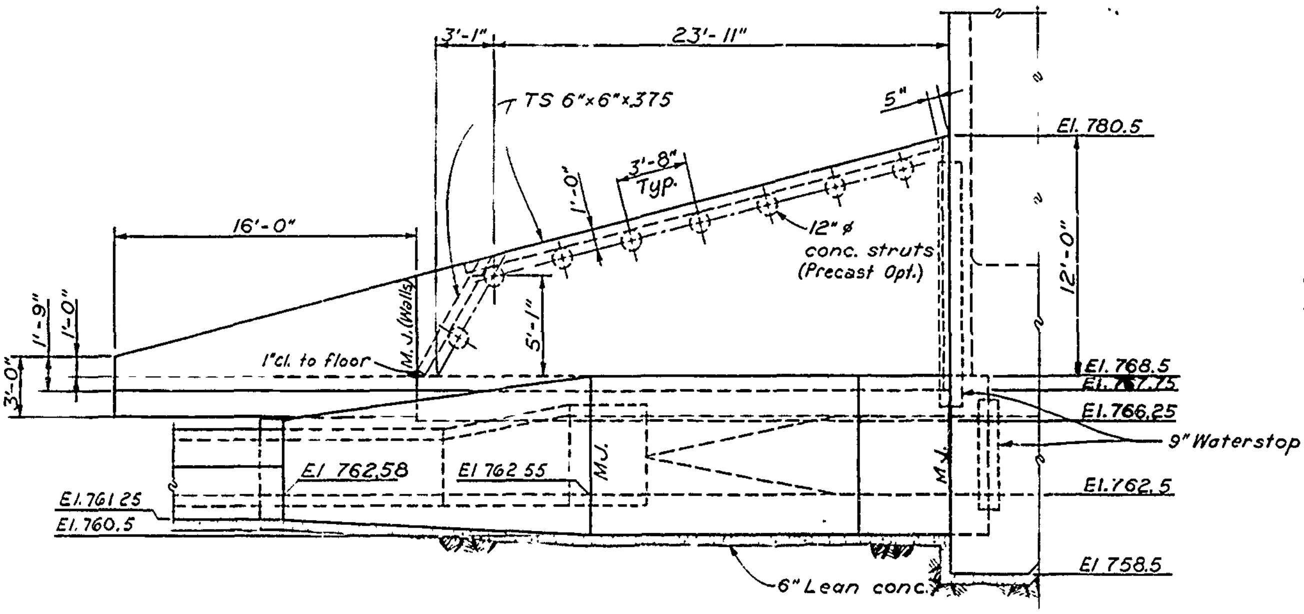
US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

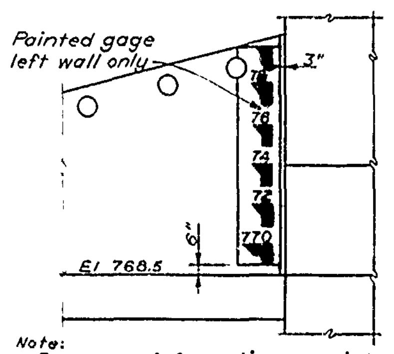
APPROACH STRUCTURE
PLAN AND DETAILS



PLAN

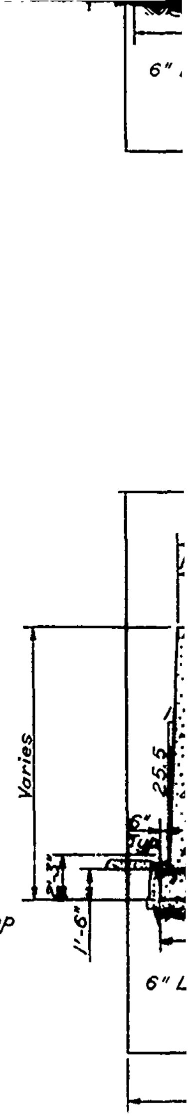


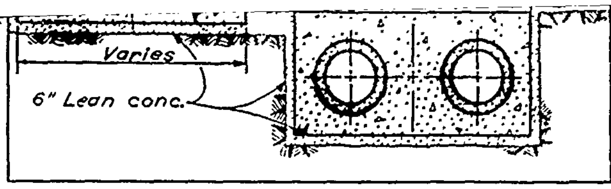
ELEVATION A



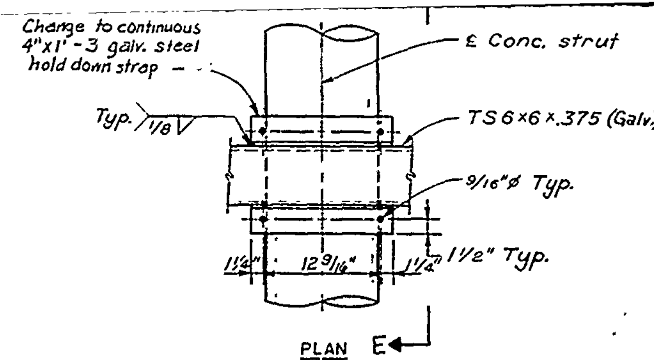
Note:
For more information on painted gages see "Tile Gage Details" on Dwg. J1.

PAINTED GAGE DETAILS
LEFT APPROACH WALL

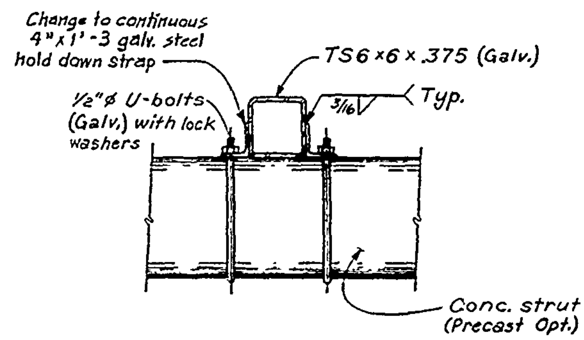




SECTION B



PLAN

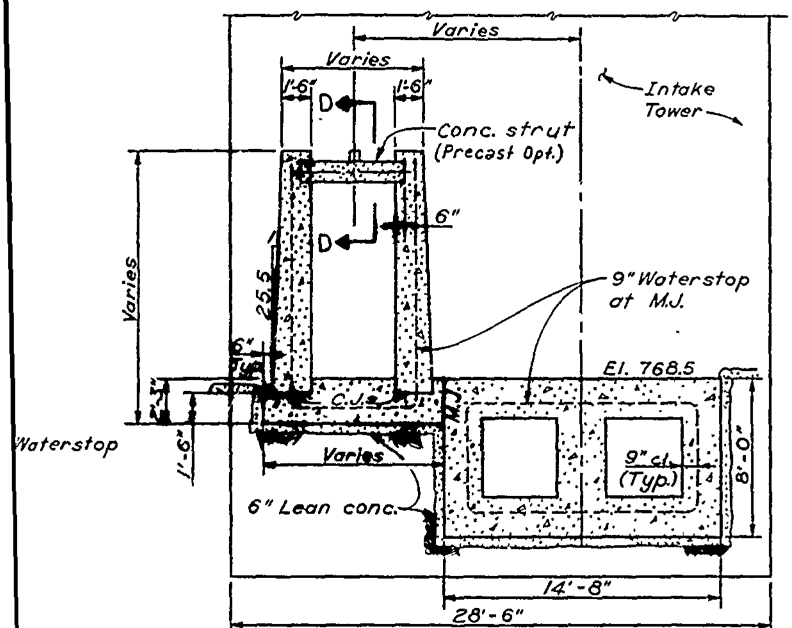


SECTION E

TRASHRACK DETAILS
Scale: 1 1/2" = 1'-0"

GENERAL NOTES - APPROACH STRUCTURE

1. M.J. = Monolith joint. - Painted
2. C.J. = Construction joint.
3. Reinforcement is not continuous through Monolith joints.
4. Reinforcement is continuous through Construction joint.
5. Clear distance of reinforcement from waterstop shall be 2 1/2."



SECTION C

REFERENCE DWG.	DWG. NO.
RUBBER WATERSTOP	P2
INTAKE TOWER	J3

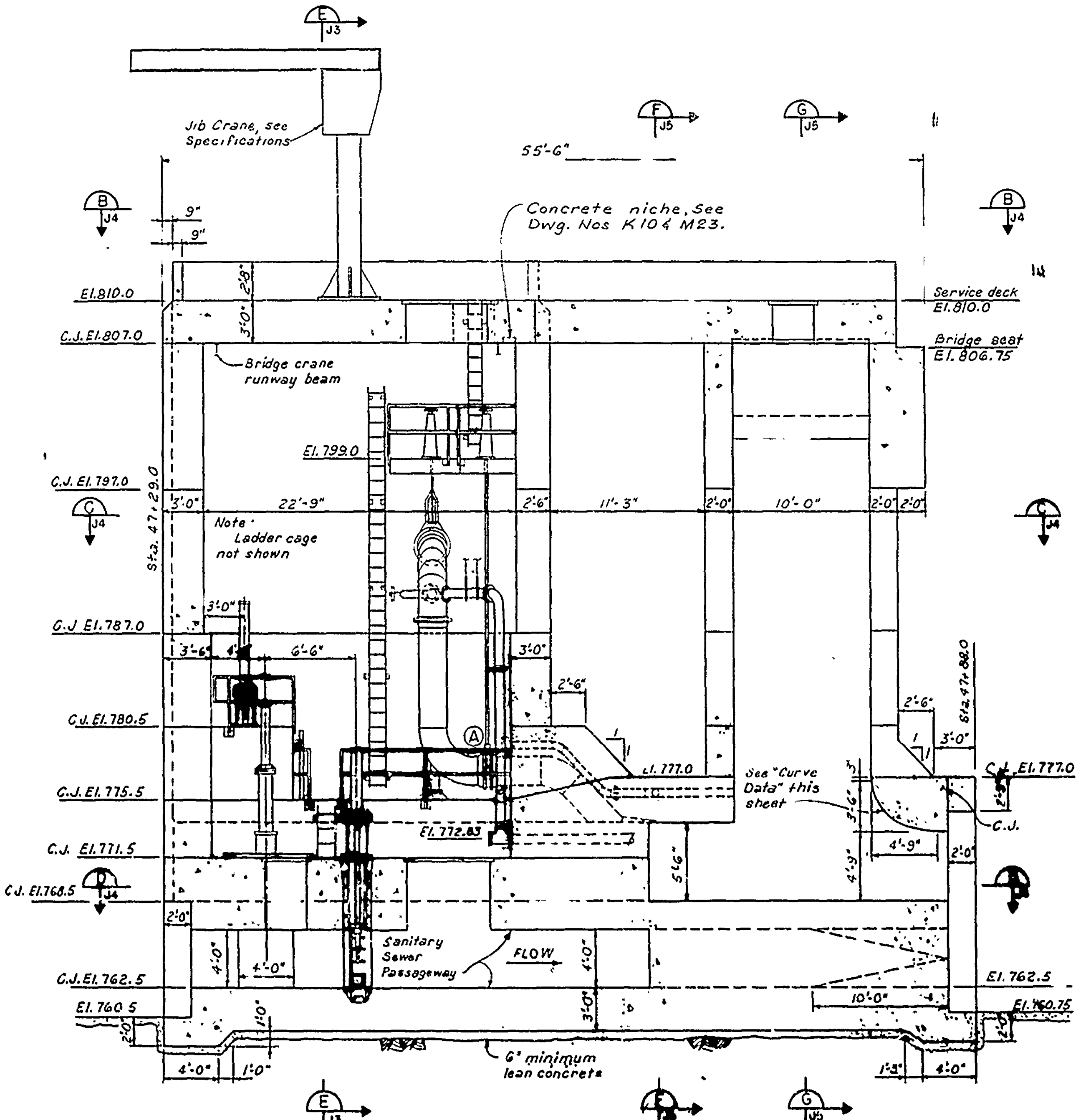
Scale: 1/4" = 1'-0"
(Except as noted)

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:	US Army Corps of Engineers — EAST FORK LITTLE BLUE RIVER, MISSOURI / BLUE SPRINGS LAKE / CONSTRUCTION FOUNDATION REPORT
Drawn by:	APPROACH STRUCTURE PLAN AND DETAILS
Checked by:	Scale AS SHOWN — Sheet number 18
Submitted by:	Date JUNE 1990 — Dwg No.: — File No. RBL-2-1238

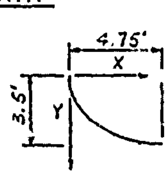
PLATE NO. 18



SECTION A
J4 J3

CURVE DATA

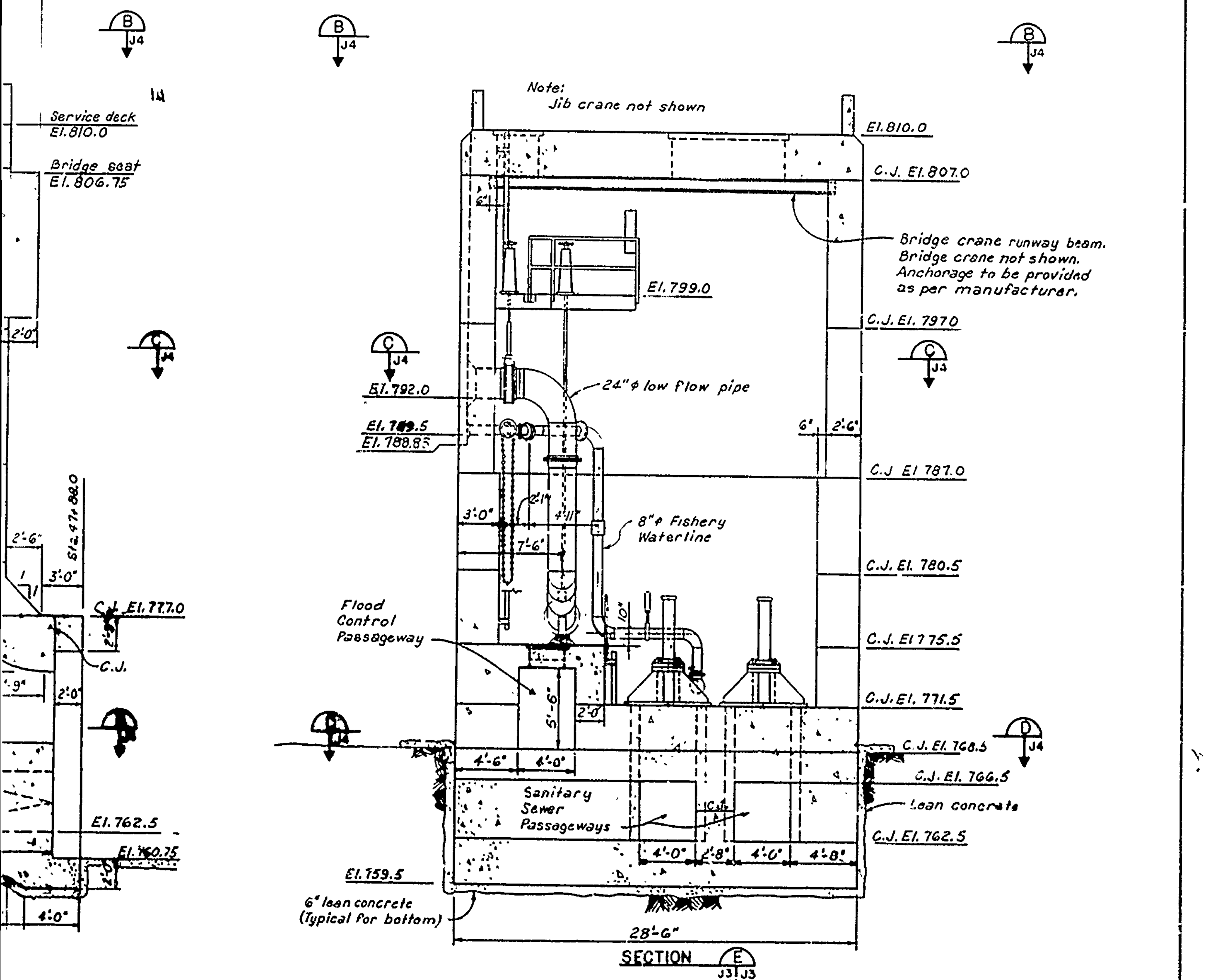
X (Ft.)	Y (Ft.)
0	0
.25	1.12
.5	1.56
1.0	2.15
1.5	2.55
2.5	3.08
3.5	3.38
4.75	3.50



CONCRETE QUANTITY
1268 CU YDS

REFERENCE DWGS. DW

RAILINGS
LADDERS
HATCHES
LOW FLOW PIPING
WATERSTOPS



DWGS.	DWG. NO.
	L1
	L3
	L4
NG	M1
	J6

NOTE:
Parapet railing & Removable railing not shown.

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by

Drawn by

Checked by

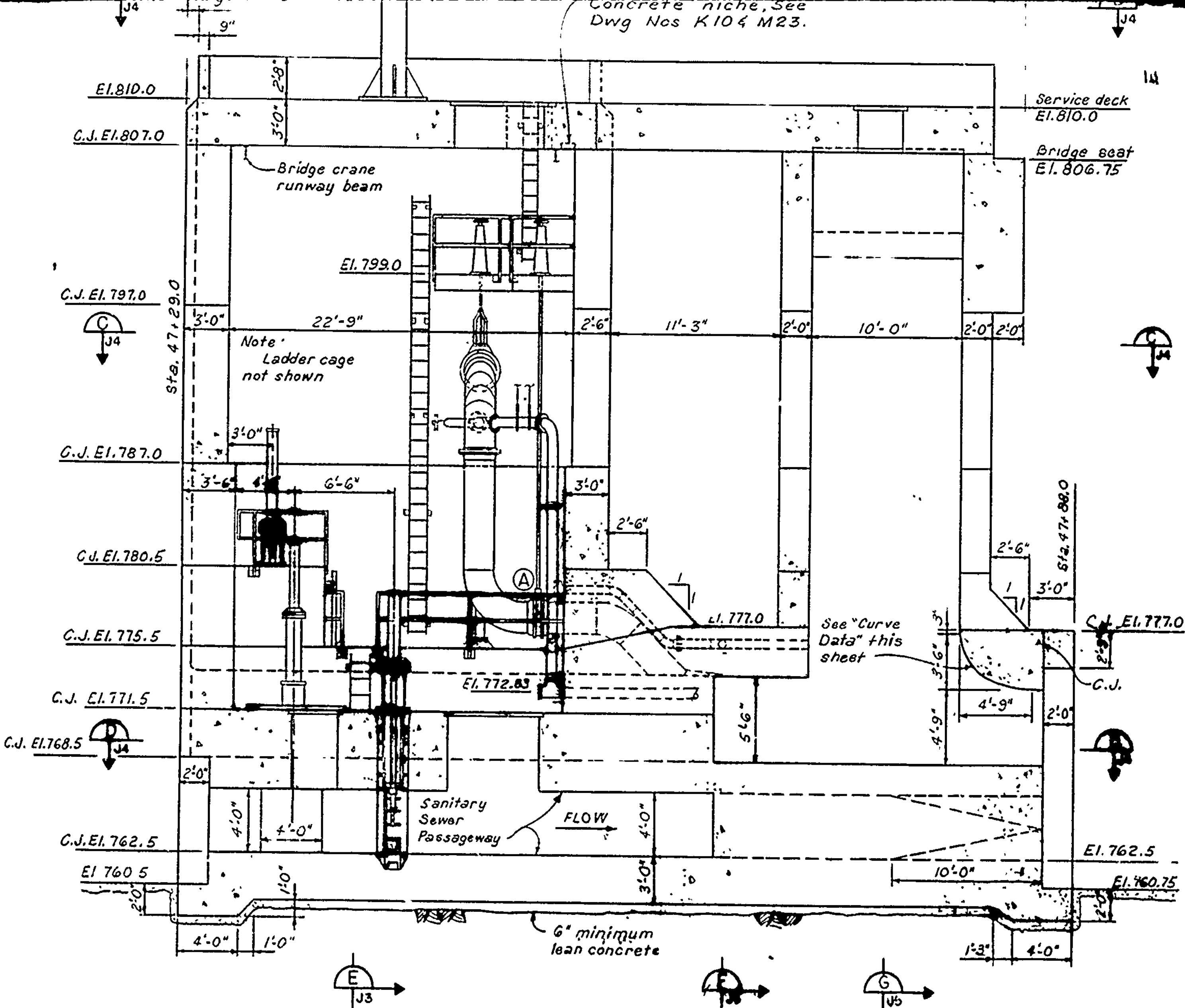
US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

INTAKE TOWER CONCRETE DIMENSIONS

Scale: AS SHOWN

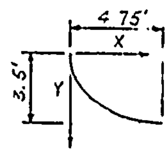
Sheet number



SECTION A J4 J3

CURVE DATA

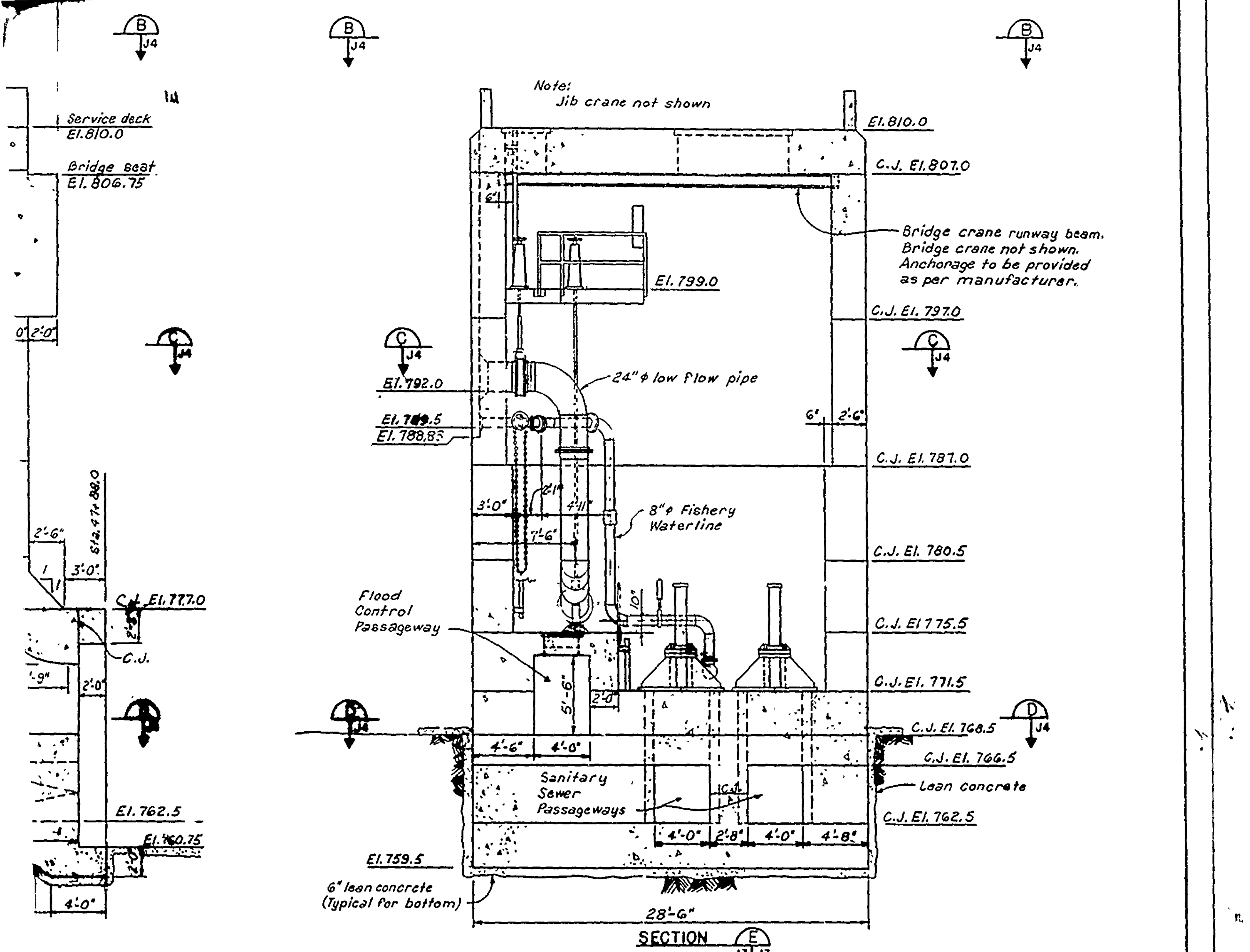
X (ft)	Y (ft)
0	0
.25	1.12
.5	1.56
1.0	2.15
1.5	2.55
2.5	3.08
3.5	3.38
4.75	3.50



CONCRETE QUANTITY
1268 CU YDS

REFERENCE DWGS. DW

RAILINGS
LADDERS
HATCHES
LOW FLOW PIPING
WATERSTOPS



DWGS.	DWG. NO.
	L1
	L3
	L4
	M1
	J6

NOTE:
Parapet railing & Removable railing not shown.

Scale: 1/4" = 1'-0"

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

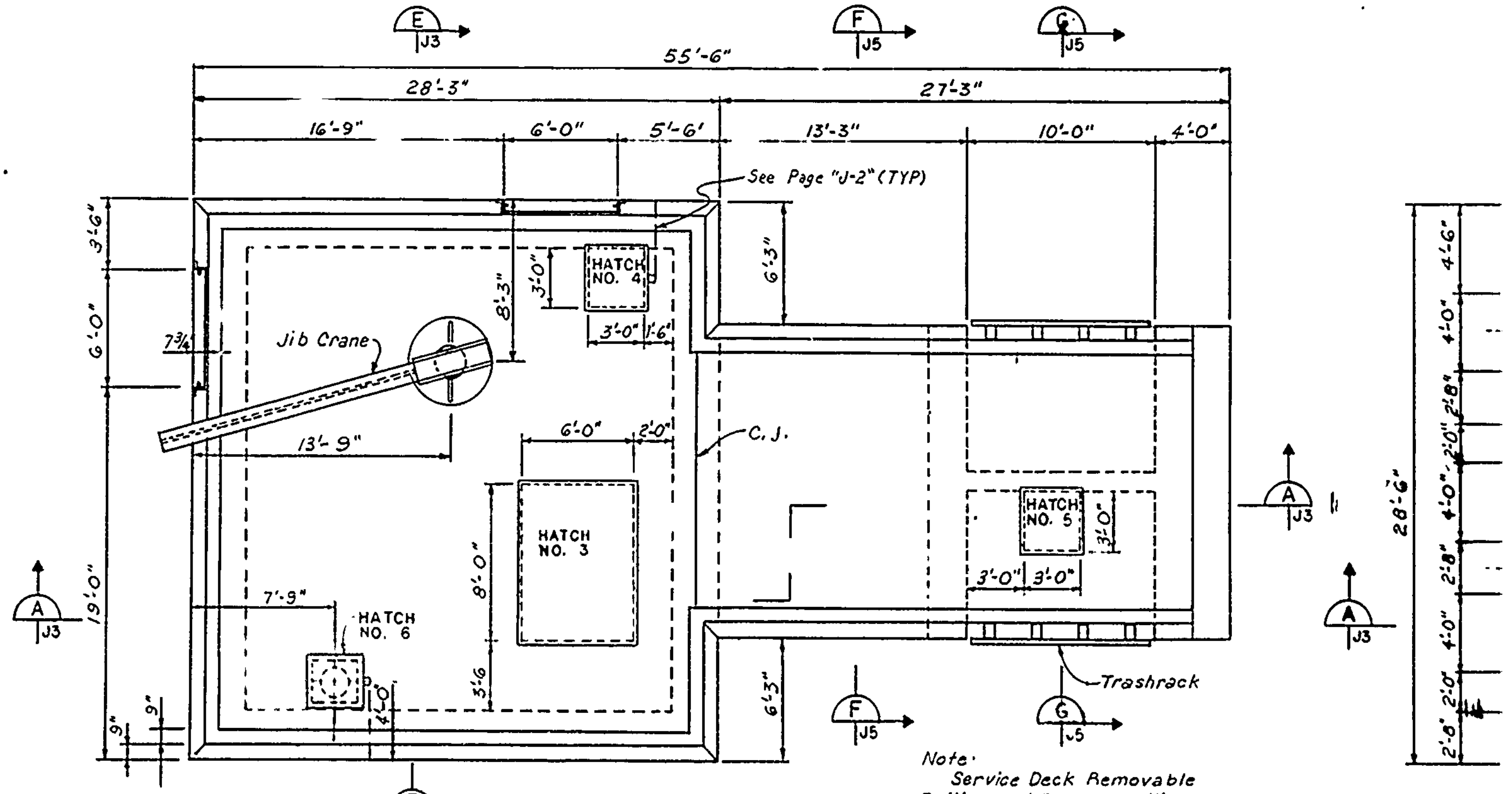
Designed by
Drawn by
Checked by
Submitted by

INTAKE TOWER CONCRETE DIMENSIONS

Scale: AS SHOWN
Date: JUNE 1990
Sheet number: 19
Dwg No.:
File No.: RBL-2-1239

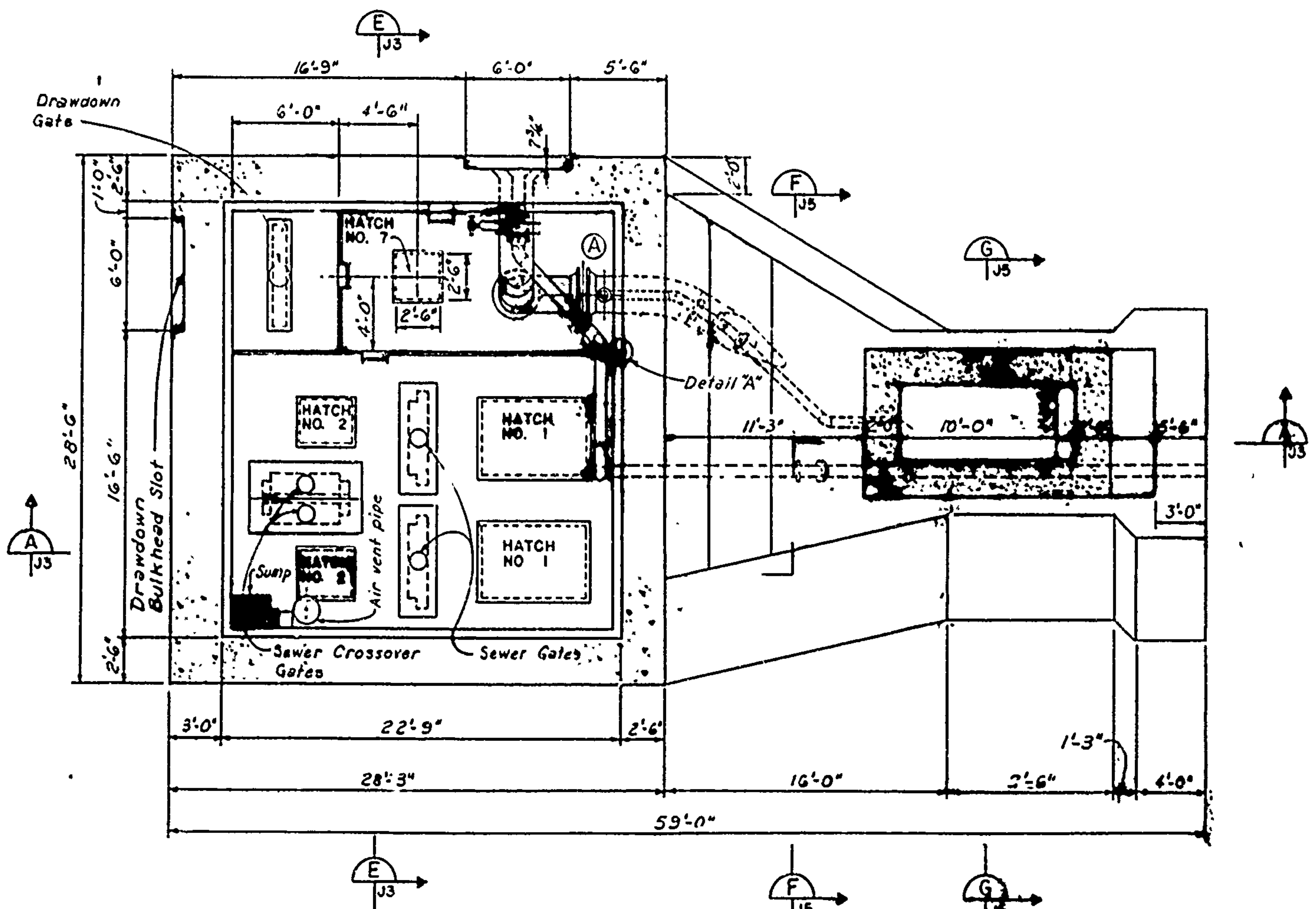
PLATE NO. 19

[redacted]

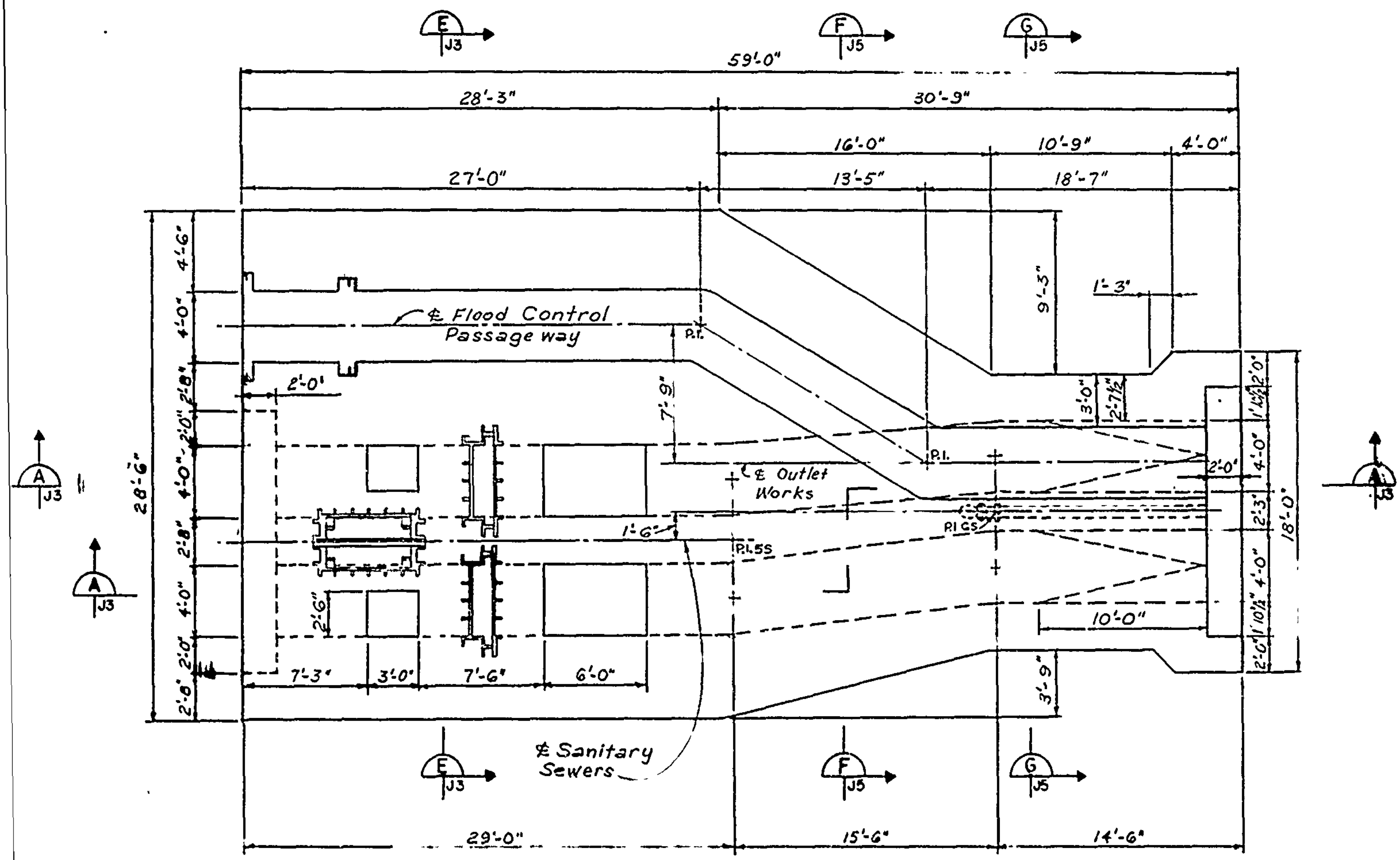


Note·
Service Deck Removable Railing and Parapet railing not shown.

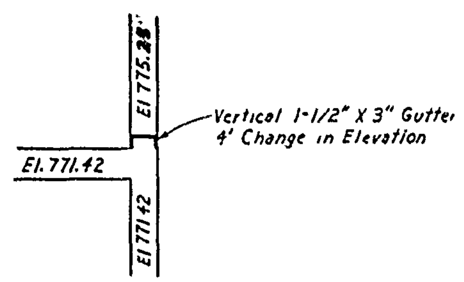
SECTION B J3 J4 J5



SECTION C



SECTION D J3 J4 J5



VERTICAL GUTTER DETAIL "A"

REFERENCE DWGS.	DWG NO.
HATCHES AND FRAMES	L4
DROP INLET TRASHRACK	L5
PIPING	M1

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:

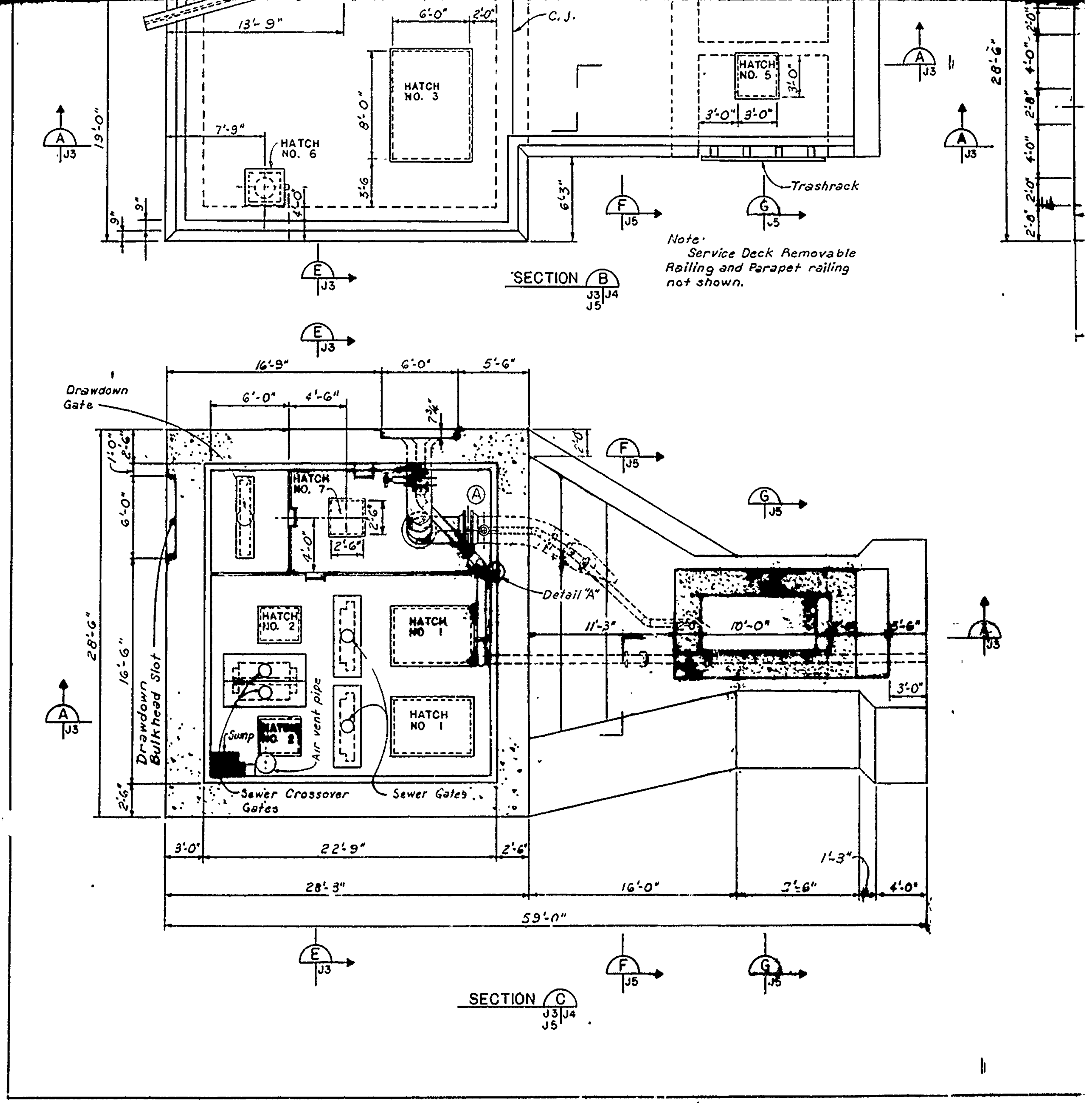
Drawn by:

Checked by:

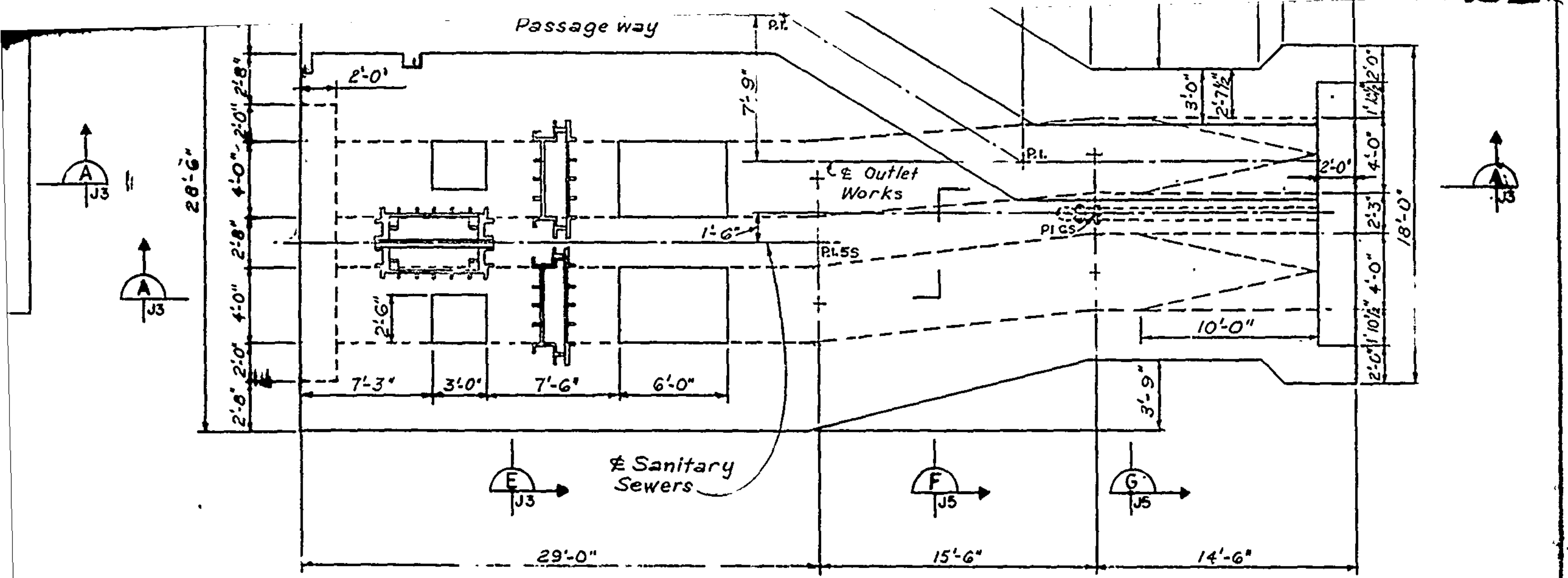
US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

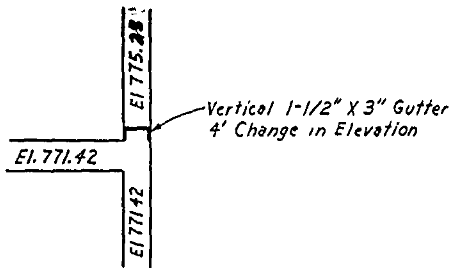
INTAKE TOWER CONCRETE DIMENSIONS



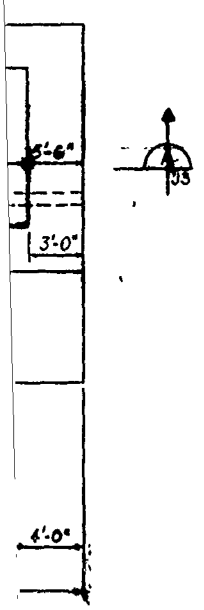
13'-9"
6'-0"
2'-0"
C. J.
HATCH NO. 3
8'-0"
7'-9"
HATCH NO. 6
3'-6
4'-0
19'-0"
9"
9"
6'-3"
HATCH NO. 5
3'-0"
3'-0"
3'-0"
Trashrack
28'-6"
Note·
Service Deck Removable Railing and Parapet railing not shown.
SECTION B
J3 J4 J5
Drawdown Gate
16'-9"
6'-0"
5'-6"
6'-0"
4'-6"
HATCH NO. 7
2'-6"
2'-6"
4'-0"
Detail "A"
HATCH NO. 2
HATCH NO 1
HATCH NO 1
HATCH NO. 2
Sump
Air vent pipe
Sewer Crossover Gates
Sewer Gates
Drawdown Bulkhead Slot
28'-6"
16'-6"
6'-0"
1'-0"
2'-6"
2'-6"
11'-3"
10'-0"
5'-6"
3'-0"
3'-0"
22'-9"
2'-6"
1'-3"
28'-3"
16'-0"
2'-6"
4'-0"
59'-0"
SECTION C
J3 J4 J5



SECTION D J3 J5 J4



VERTICAL GUTTER DETAIL "A"



REFERENCE DWGS.	DWG NO.
HATCHES AND FRAMES	L4
DROP INLET TRASHRACK	L5
PIPING	M1

Scale: 1/4" = 1'-0"

Revisions			
Symbol	Descriptions	Date	Approved

U S ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

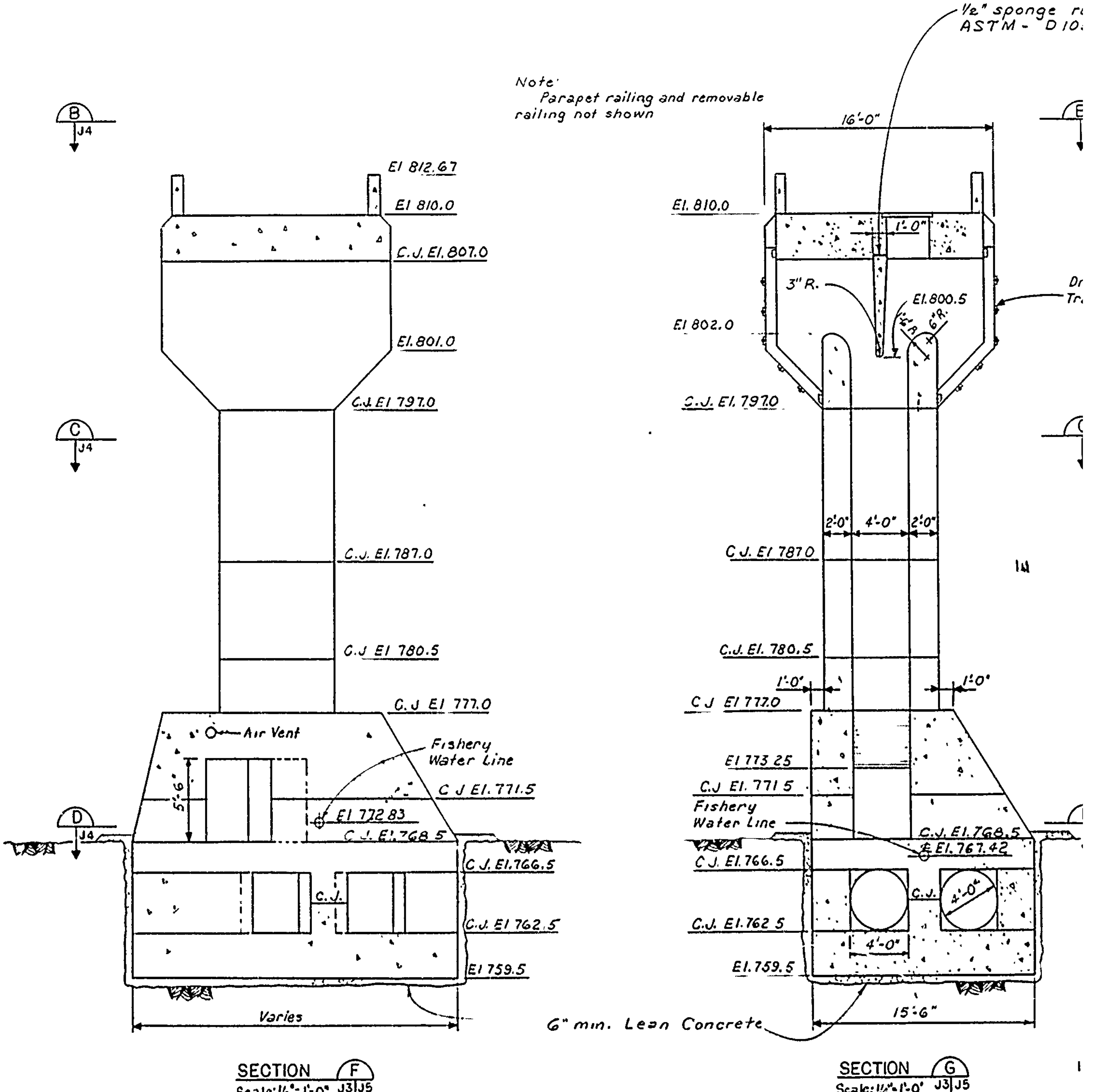
Designed by:
Drawn by:
Checked by:
Submitted by:

US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

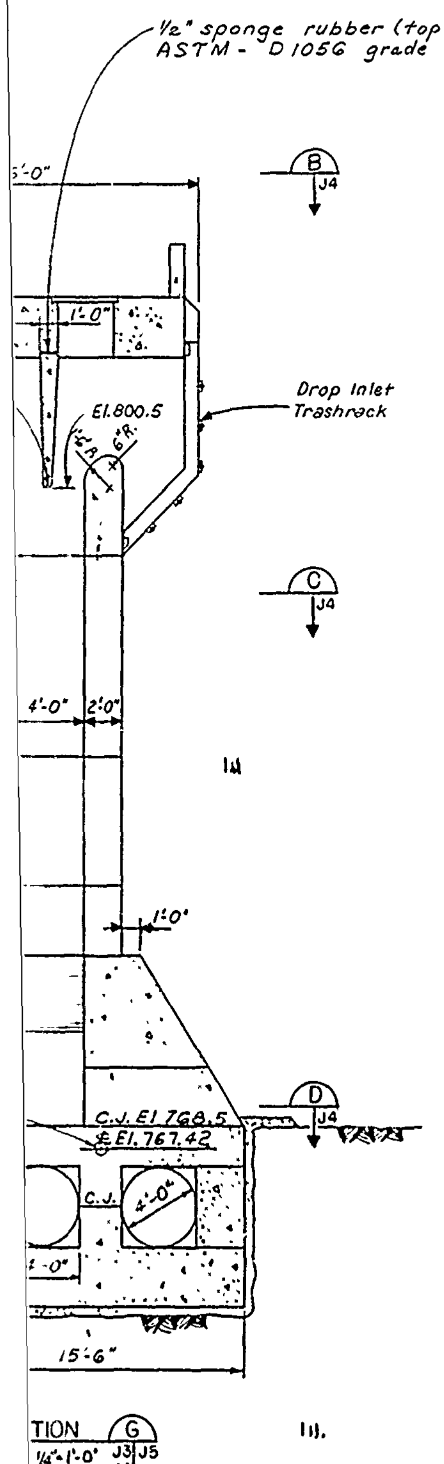
INTAKE TOWER CONCRETE DIMENSIONS

Scale	AS SHOWN	Sheet number	20
Date	JUNE 1990		
Dwg No.:		File No.	RBL-2-1240



SECTION F
Scale: 1/4"=1'-0" J3 J5 J4

SECTION G
Scale: 1/4"=1'-0" J3 J5 J4



REFERENCE DWGS. DWG. NOS.

WATERSTOPS J6
DROP INLET TRASHRACK L5

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:

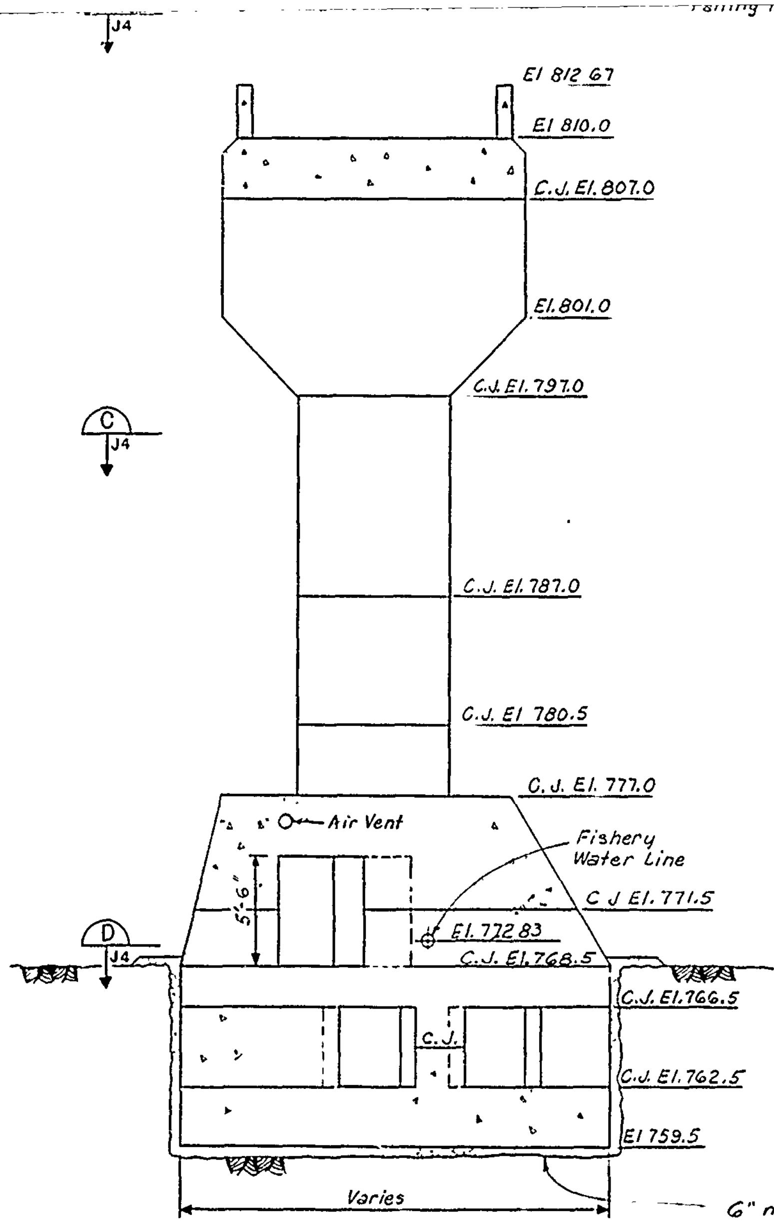
US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

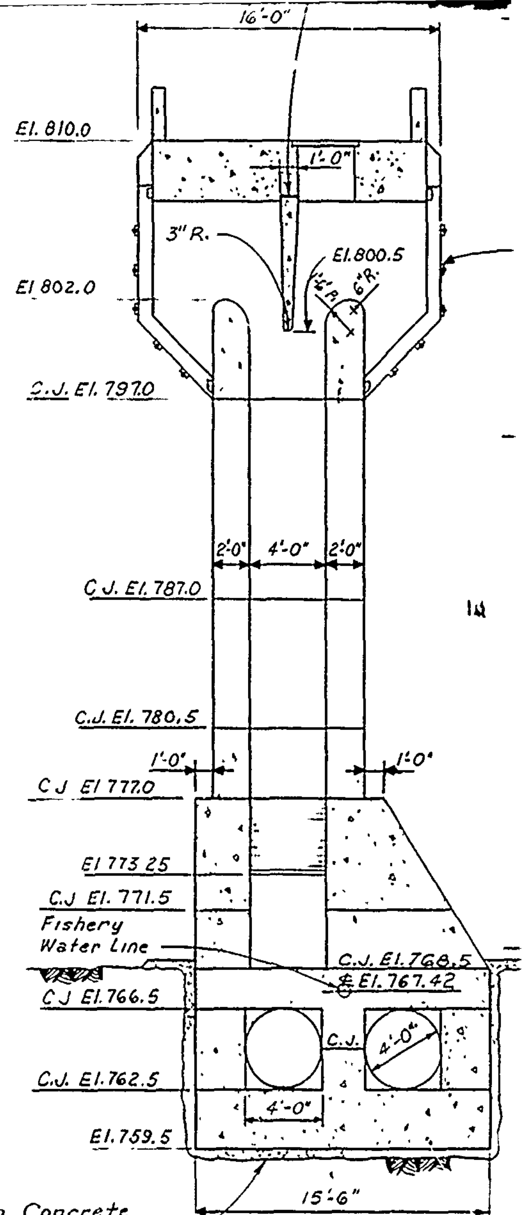
Drawn by:

INTAKE TOWER CONCRETE DIMENSIONS

Checked by:

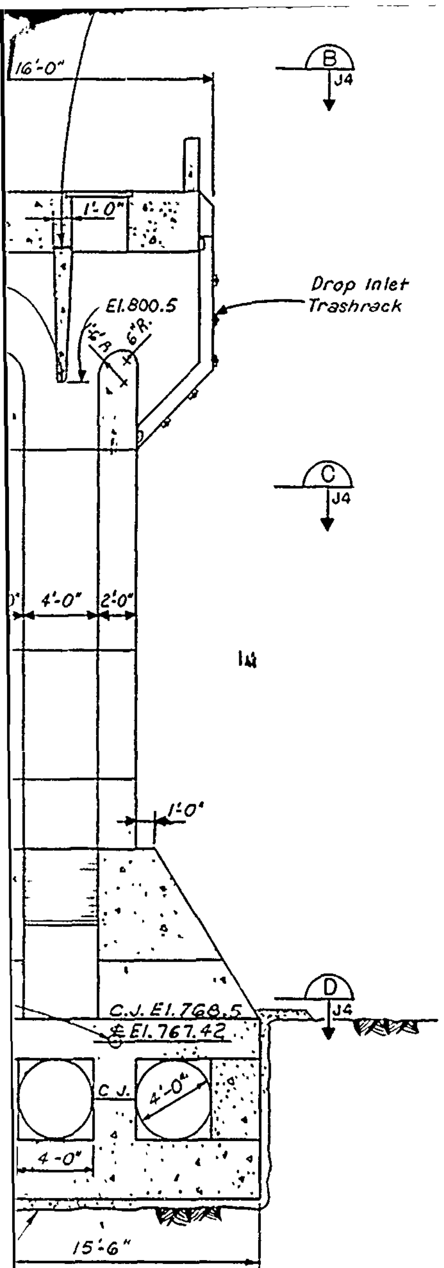


SECTION F
Scale: 1/4" = 1'-0" J3 J4 J5



6" min. Lean Concrete

SECTION G
Scale: 1/4" = 1'-0" J3 J4 J5



ECTION (G)
ale: 1/4" = 1'-0" J3 | J5 J4

REFERENCE DWGS.	DWG. NOS.
WATERSTOPS	J6
DROP INLET TRASHRACK	L5

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:
Drawn by:
Checked by:
Submitted by:

US Army Corps of Engineers

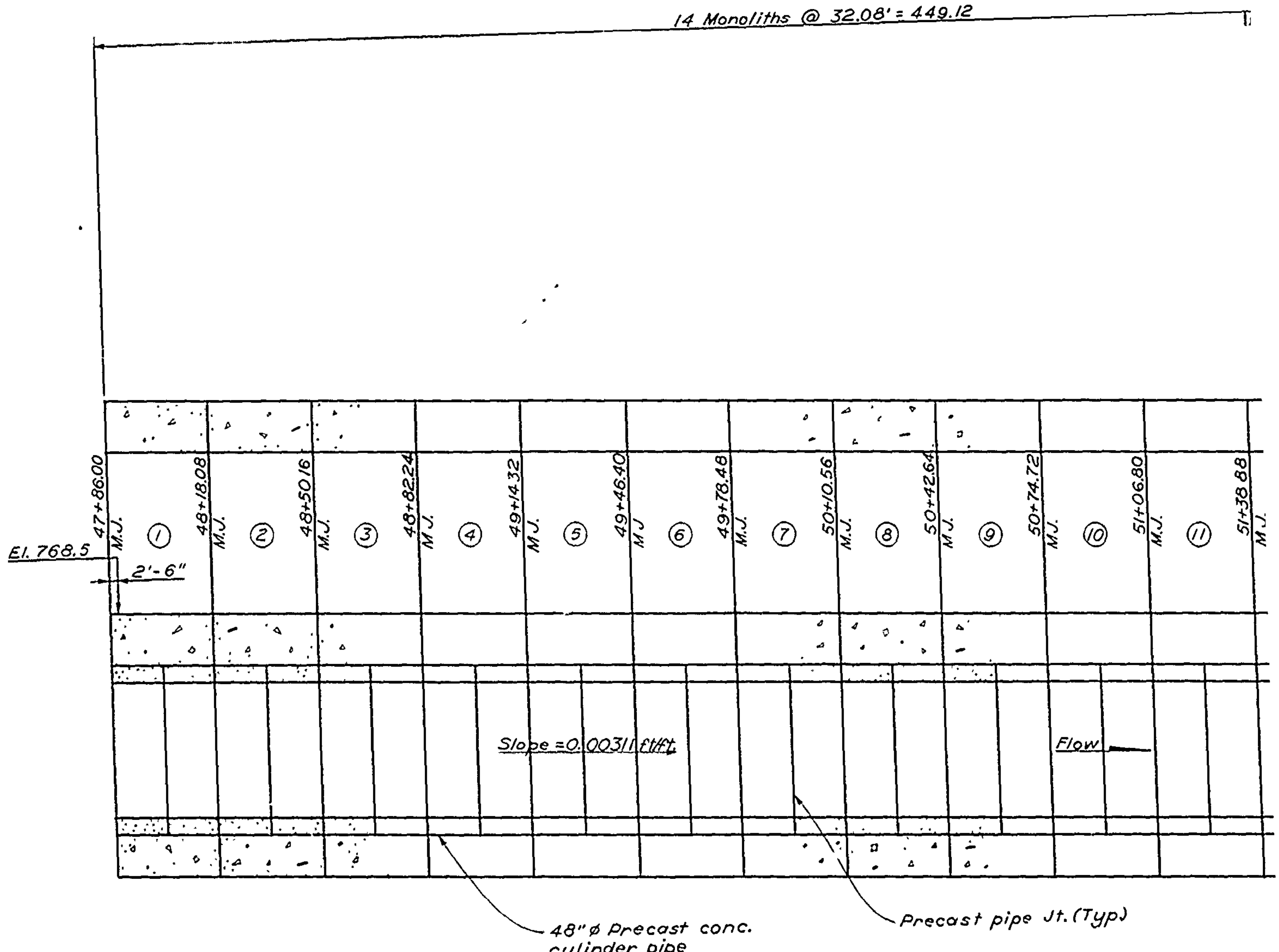
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

INTAKE TOWER CONCRETE DIMENSIONS

Scale: AS SHOWN
Date: JUNE 1990
Dwg No:
Sheet number: 21
File No: RBL-2-1241

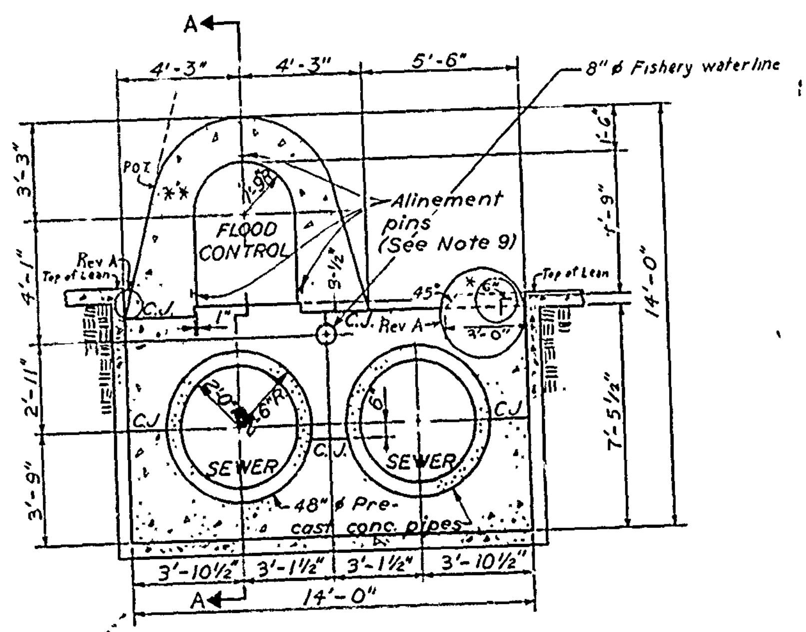
PLATE NO. 2

VALU [redacted]



SECTION A
Scale: Horiz. 1" = 20'-0"
Vert. 1" = 2'-0"

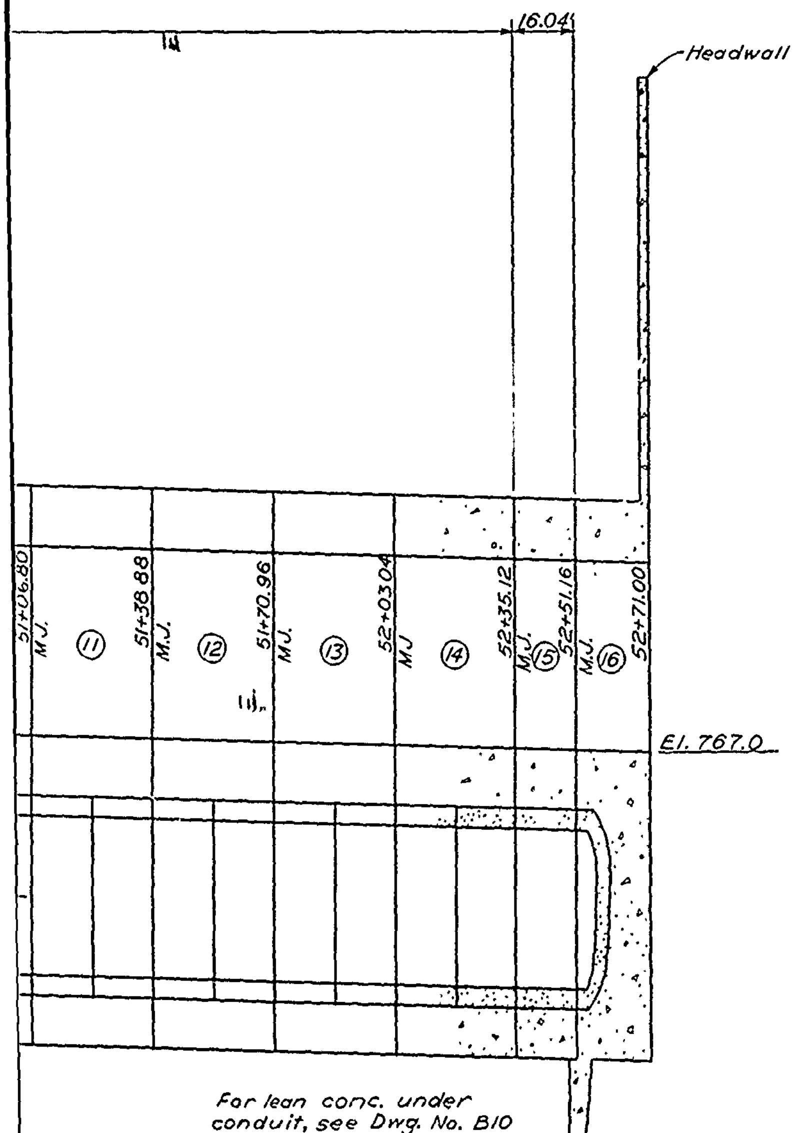
FLOOD CONTROL INVERT ELEVATIONS	
STATION	ELEVATIONS
47+86.00	768.5
47+88.50	768.5
48+18.08	768.41
48+50.16	768.31
48+82.24	768.21
49+14.32	768.11
49+46.40	768.01
49+78.48	757.91
50+10.56	767.81
50+42.64	767.71
50+74.72	767.61
51+06.80	767.51
51+38.88	767.41
51+70.96	767.31
52+03.04	767.21
52+35.12	767.11
52+51.16	767.06
52+71.00	767.00

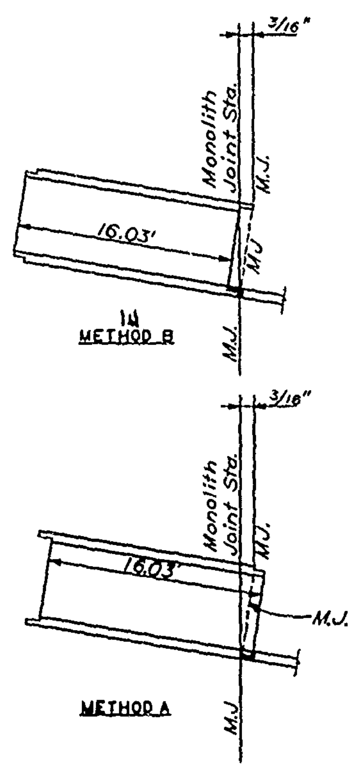


SECTION THRU CONDUIT Ⓐ
MONOLITHS 2 THRU 15
Scale: ⅜" = 1'-0"

TYPICAL

*Note 1: Install #4 Re-Bar 6" x 6" on 24" centers where structure concrete has previously been placed. The #4 Bar shall be dowel in and ... The concrete in this area shall conform to the dashed





TYPICAL PRECAST PIPE MONOLITH JOINT DETAIL

REFERENCE DWG.	DWG. NO.
Conduit Monolith 1	P3
Conduit Monolith 16	Q1
9" Rubber Waterstop	P2

CONCRETE QUANTITY
CONDUIT MONO 1 THRU 16
1685 CU. YDS.

GENERAL NOTES - CONDUIT AND SEWER ENCASEMENT

1. M.J. - Monolith Joint.
2. C.J. - Construction Joint.
3. Clear distance of reinforcement from Monolith Joint shall be 6" and from face of concrete shall be 4" unless otherwise noted.
4. Clear distance of reinforcement from waterstop and joint filler shall be 1½".
5. All reinforcement splice and anchorage lengths shall conform to table shown on Dwg. No. H4 unless otherwise noted.
6. Reinforcement continuous thru CJ.
7. Reinforcement not continuous thru MJ.
8. All conduit monolith joints shall be coated with bituminous curing compound and the flood control invert joint shall have a ⅛" tooled edge.
9. Provide 3-Stnls. St. rods ½"ø x 4", 5" upstream and downstream of each monolith joint between Sta. 47+85.9 and Sta. 52+51.26. Drill 4½" deep hole. Install rods flush with surface using epoxy adhesive Sika Sikadur Lo-Mod Gel or equal. Follow epoxy manufacturers recommendations for installation. The rods shall be center punched with a fine point punch and approved by the Contracting Officer prior to installation. The final product shall be a permanent, firmly anchored system that will be used to monitor conduit monolith movement. (A)
10. Monolith joints and sewer points of intersection (P.I.s) downstream of Sta. 47+86.00 may differ in the location shown (upstream-downstream direction only) by not more than or less than 0.01 feet, accumulative, for each 16 feet of sewer pipe. Deviations in the conduit monolith locations will be adjusted in Monolith 16 so that the headwall is located at Sta. 52+71.00.

Revisions			
Symbol	Descriptions	Date	Approved

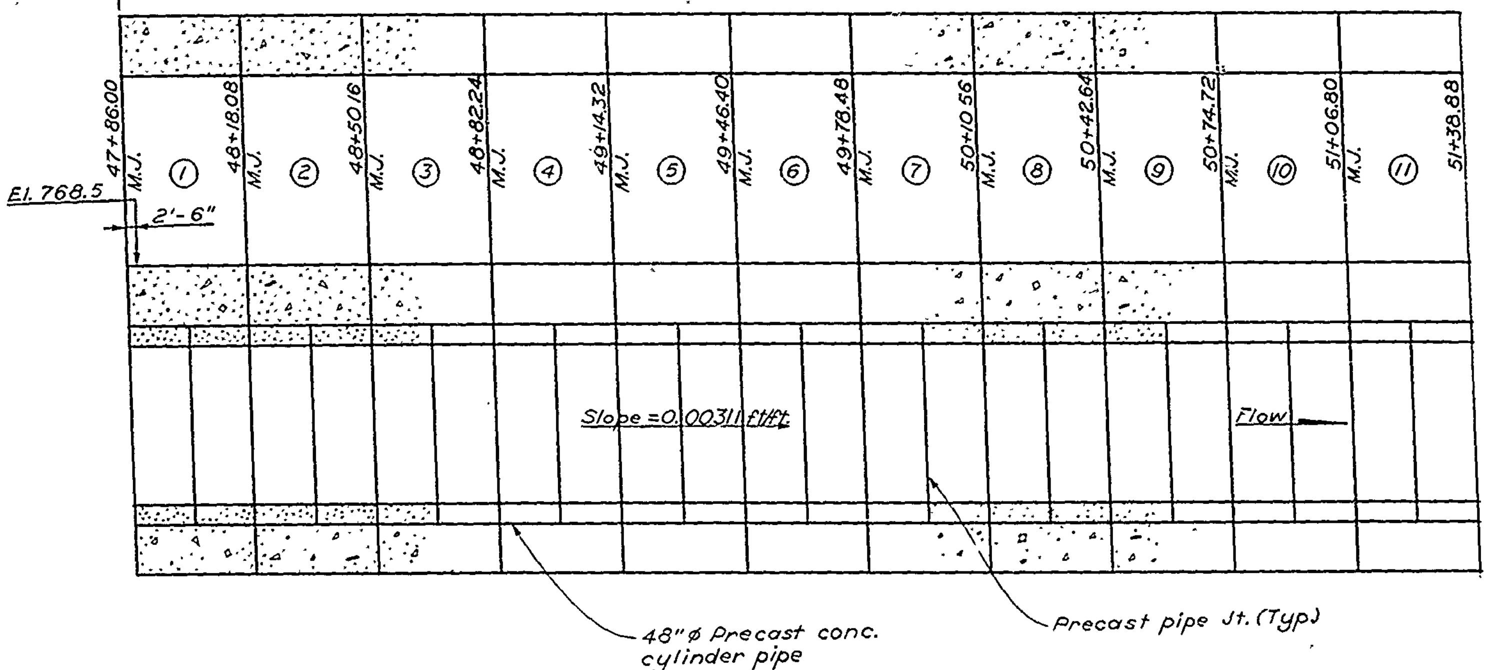
U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:
US Army Corps of Engineers
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

Drawn by:
CONDUIT PROFILE AND DETAILS

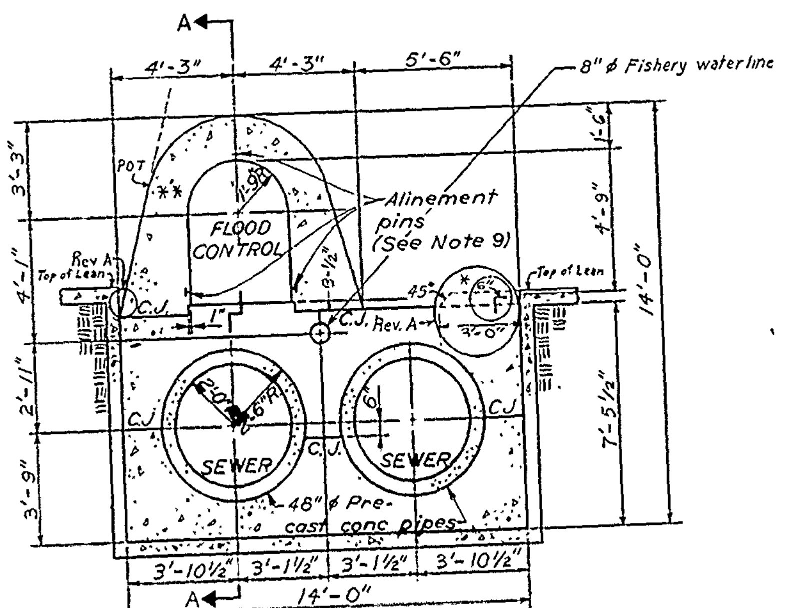
Checked by:

Scale AS SHOWN — Sheet number



SECTION A
Scale: Horiz. 1" = 20'-0"
Vert. 1" = 2'-0"

FLOOD CONTROL INVERT ELEVATIONS	
STATION	ELEVATIONS
47+86.00	768.5
47+88.50	768.[illegible]
48+18.08	768.41
48+50.16	768.31
48+82.24	768.21
49+14.32	768.11
49+46.40	768.01
49+78.48	767.91
50+10.56	767.81
50+42.64	767.71
50+74.72	767.61
51+06.80	767.51
51+38.88	767.41
51+70.96	767.31
52+03.04	767.21
52+35.12	767.11
52+51.16	767.06
52+71.00	767.00

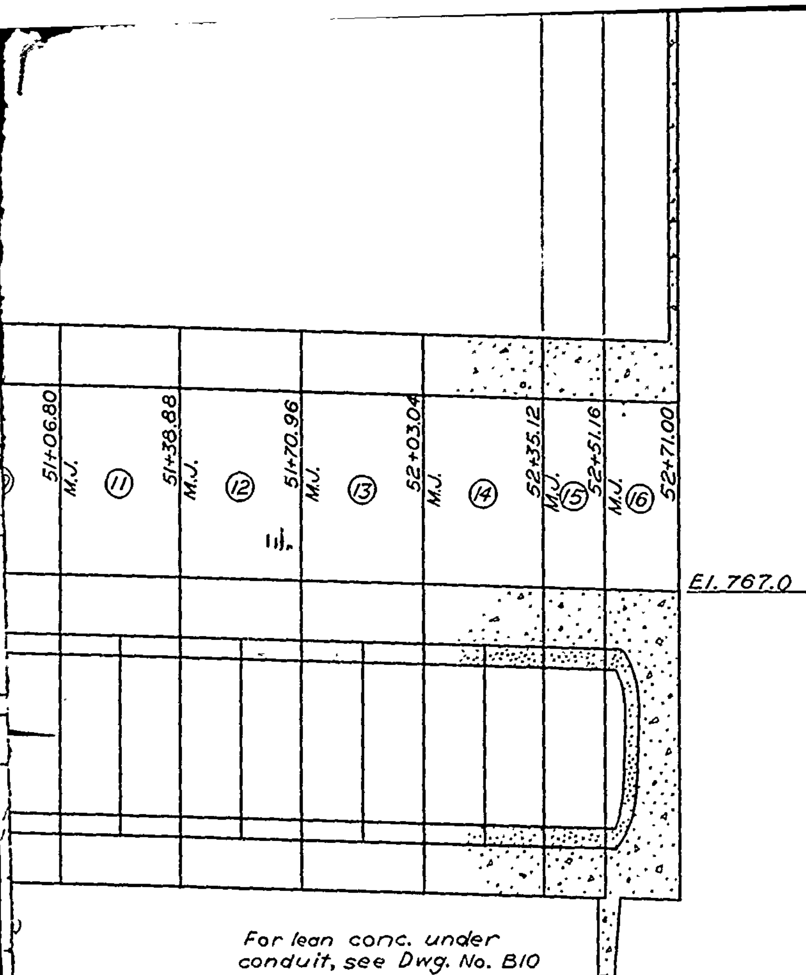


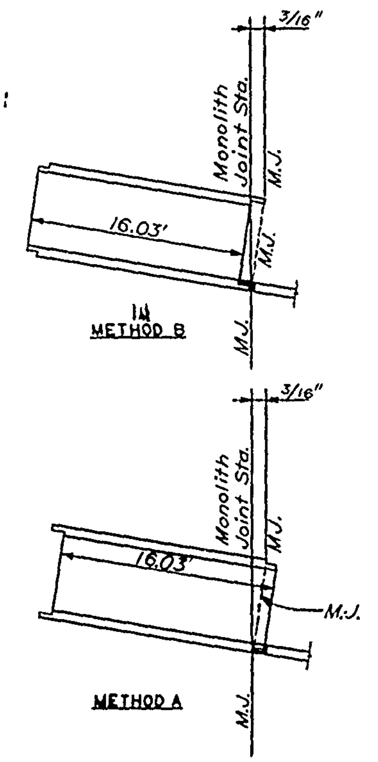
SECTION THRU CONDUIT Ⓐ
MONOLITHS 2 THRU 15
Scale: ⅜" = 1'-0"

*Note 1: Install #4 Re-Bar 6" x 6" on 24" centers where structure concrete has previously been placed. The #4 Bar shall be dowel in and set in epoxy. The concrete in this area shall conform to the dashed section shown.
** Construct template to verify theorectical structural dimension.

----Concrete surface prior to modification

TYPICAL
MONOLITH
USE EITHER ME
No





TYPICAL PRECAST PIPE
MONOLITH JOINT DETAIL
USE EITHER METHOD A OR B THROUGHOUT
Not to Scale

GENERAL NOTES - CONDUIT AND SEWER ENCASEMENT

1. M.J. - Monolith Joint.
2. C.J. - Construction Joint.
3. Clear distance of reinforcement from Monolith Joint shall be 6" and from face of concrete shall be 4" unless otherwise noted.
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7. Reinforcement not continuous thru M.J.
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9. (A) Provide 3-Stnls. St. rods ½" ø x4", 5" upstream and downstream of each monolith joint between Sta. 47+85.9 and Sta. 52+51.26. Drill 4½" deep hole. Install rods flush with surface using epoxy adhesive Sika Sikadur Lo-Mod Gel or equal. Follow epoxy manufacturers recommendations for installation. The rods shall be center punched with a fine point punch and approved by the Contracting Officer prior to installation. The final product shall be a permanent, firmly anchored system that will be used to monitor conduit monolith movement.
10. Monolith joints and sewer points of intersection (P.I.s) downstream of Sta. 47+86.00 may differ in the location shown (upstream-downstream direction only) by not more than or less than 0.01 feet, accumulative, for each 16 feet of sewer pipe. Deviations in the conduit monolith locations will be adjusted in Monolith 16 so that the headwall is located at Sta. 52+71.00.

REFERENCE DWG.	DWG. NO.
Conduit Monolith 1	P3
Conduit Monolith 16	Q1
9" Rubber Waterstop	P2

CONCRETE QUANTITY
CONDUIT MONO 1 THRU 16
1685 CU. YDS.

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

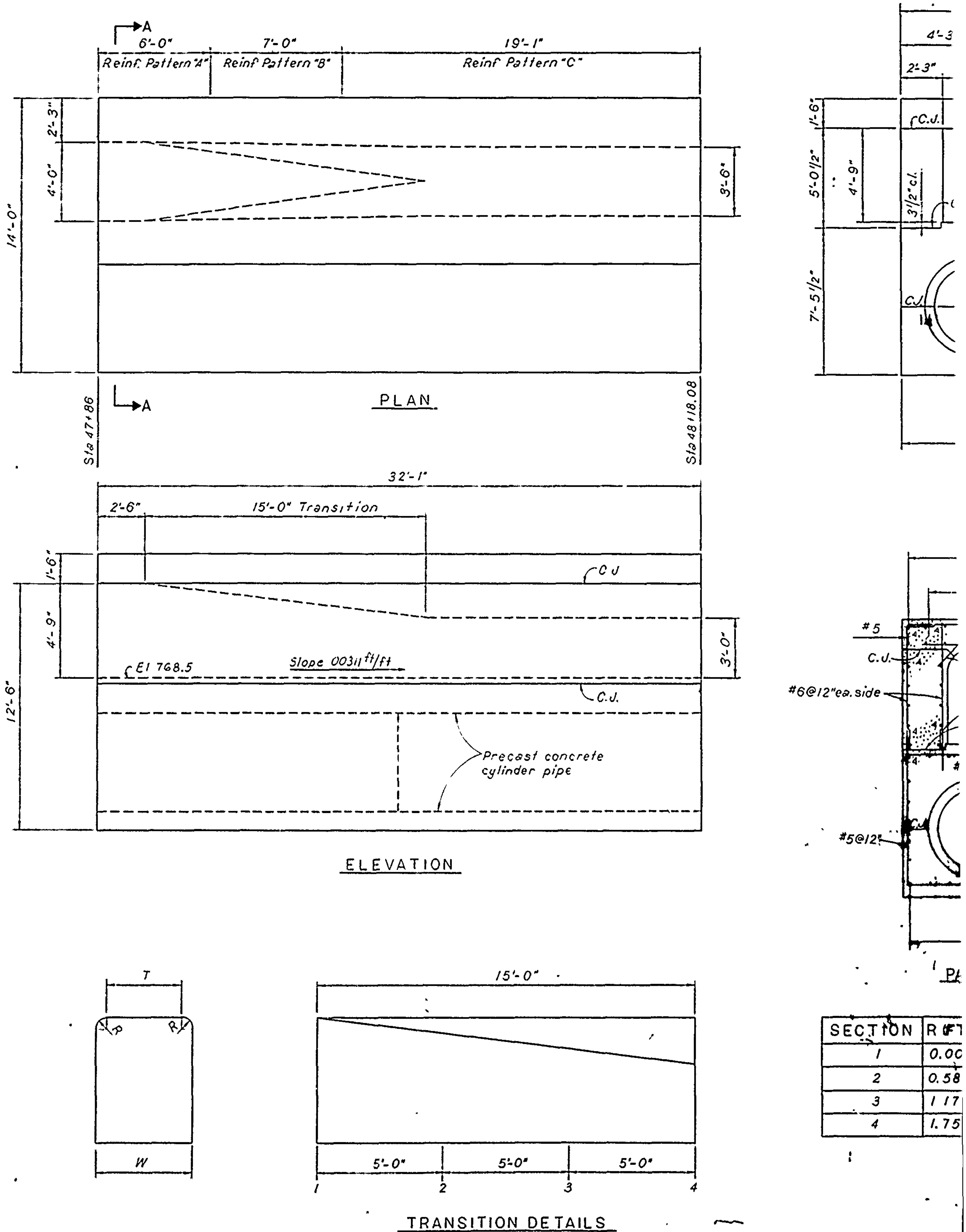
US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

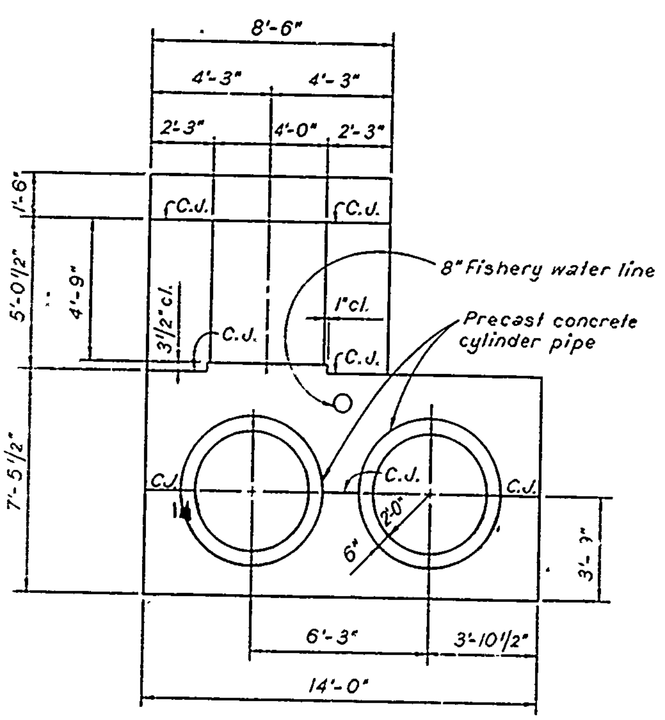
CONDUIT PROFILE AND DETAILS

Designed by:
Drawn by:
Checked by:
Submitted by:

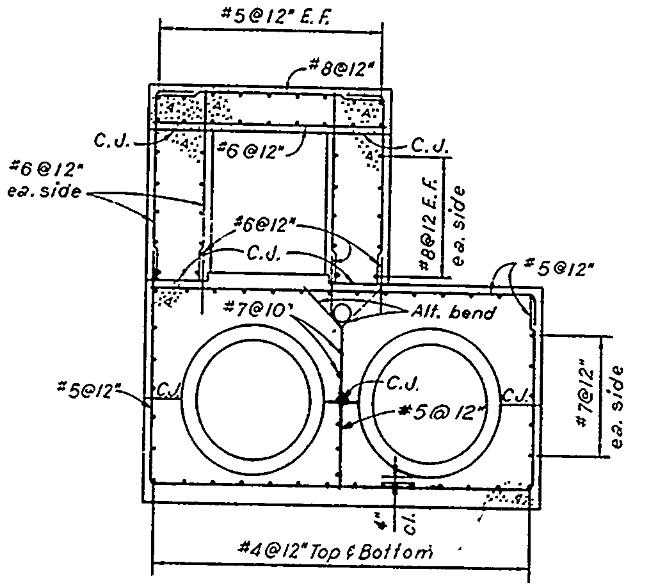
Scale: AS SHOWN
Date: JUNE 1990
Dwg No.:
Sheet number: 22
File No.: RBL-2-1242



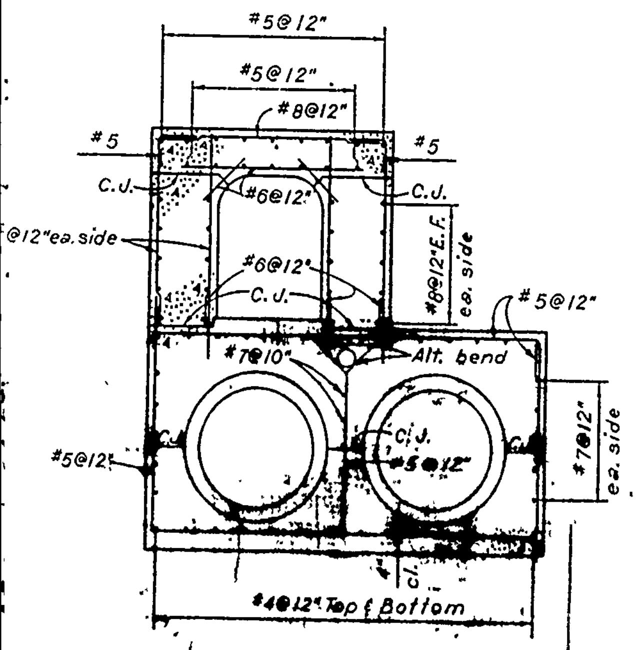
SECTION	R (FT
1	0.00
2	0.58
3	1.17
4	1.75



SECTION A



PATTERN "A" REINF.



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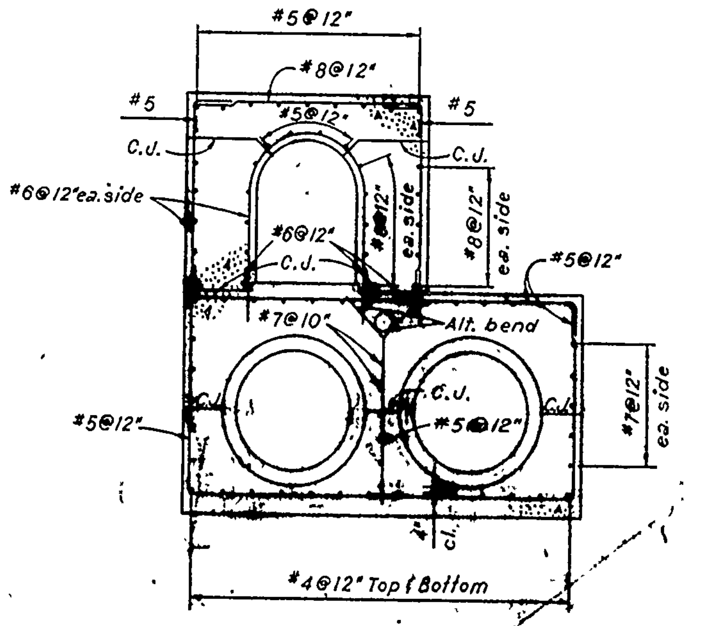


PATTERN "C" REINF.

SECTION	R (FT.)	T (FT.)	W (FT.)
1	0.00	4.00	4.00
2	0.58	[illegible]	3.83
3	1.17	1.33	3.67
4	1.75	0.00	3.50

Scale: 3/8"=1'-0"

Revisions

Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:

Drawn by:

Checked by:

Submitted by:

US Army Corps of Engineers

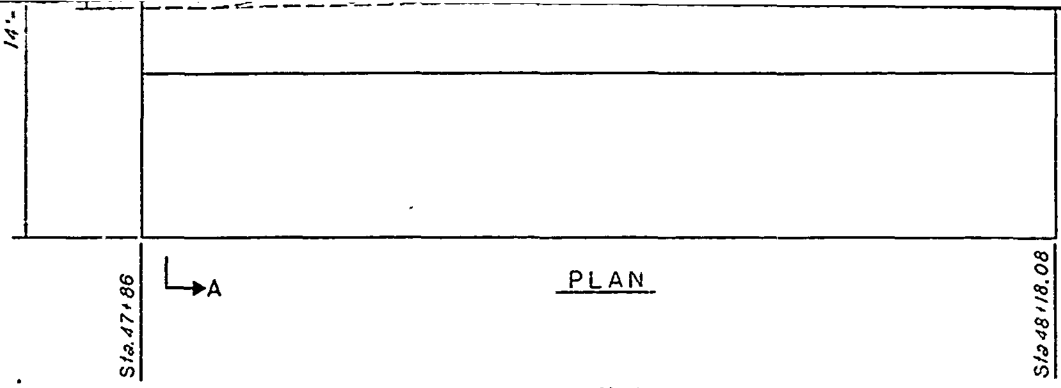
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

CONDUIT MONOLITH I

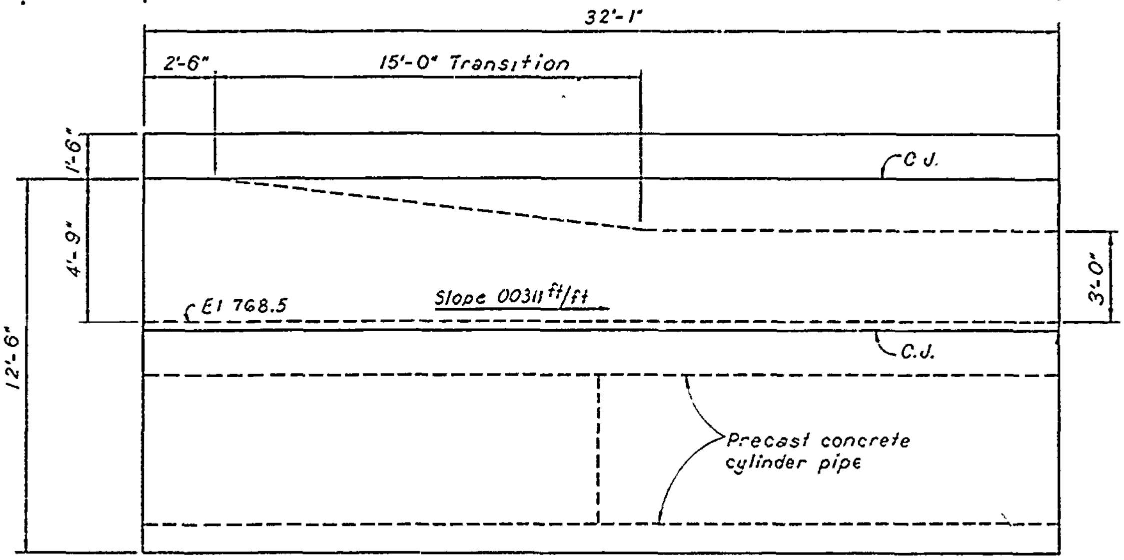
Scale: AS SHOWN

Sheet number:

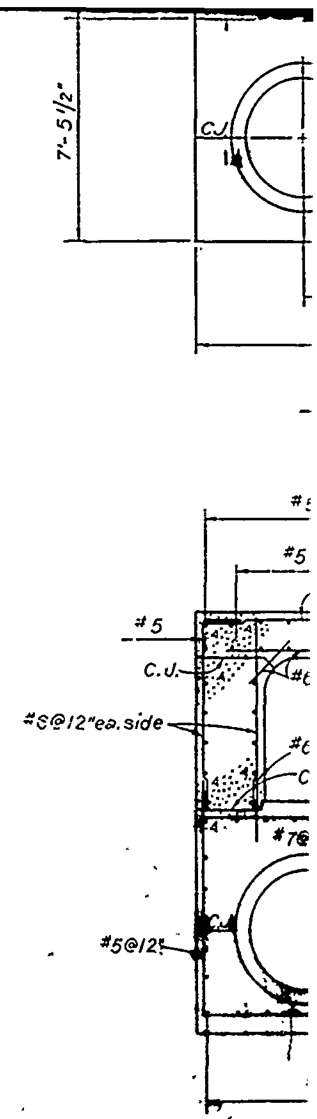
Date: JUNE 1990



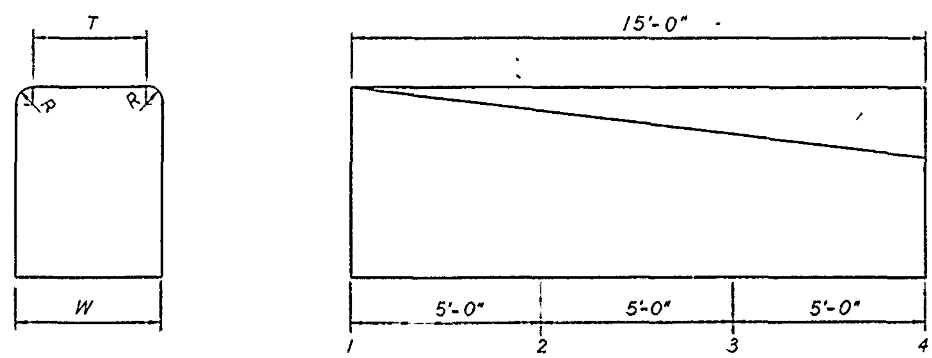
PLAN



ELEVATION

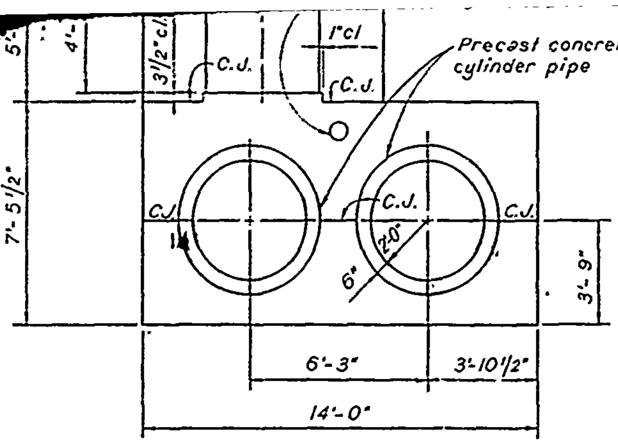


PAT

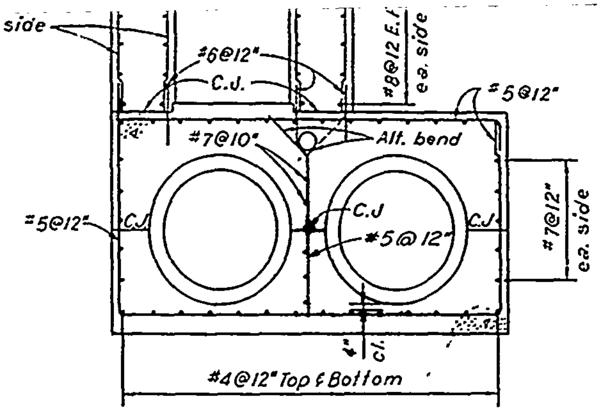


TRANSITION DETAILS

SECTION	R (FT.)
1	0.00
2	0.58
3	1.17
4	1.75



SECTION A



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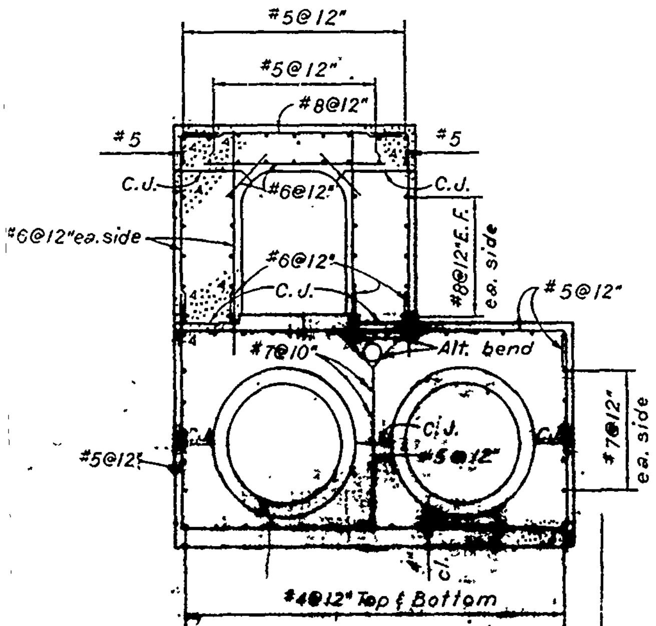

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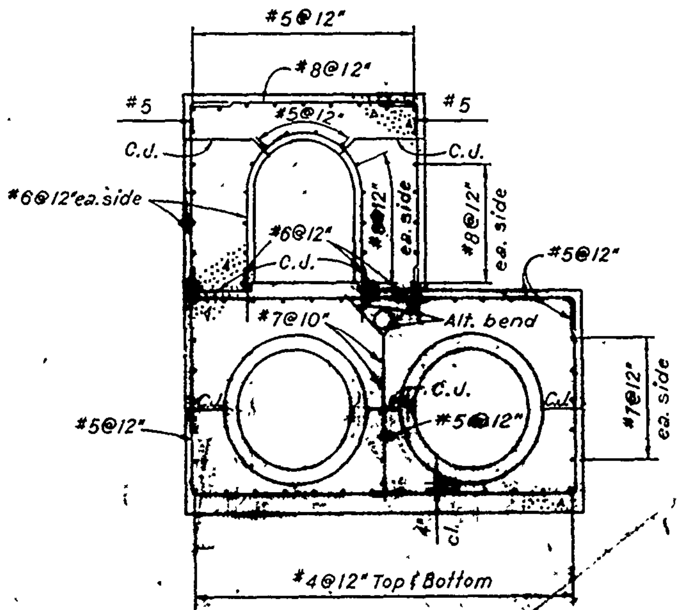


PATTERN "C" REINF.

SECTION	R (FT.)	T (FT.)	W (FT.)
1	0.00	4.00	4.00
2	0.58	2.67	3.83
3	1.17	1.33	3.67
4	1.75	0.00	3.50

Scale: 3/8"=1'-0"

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

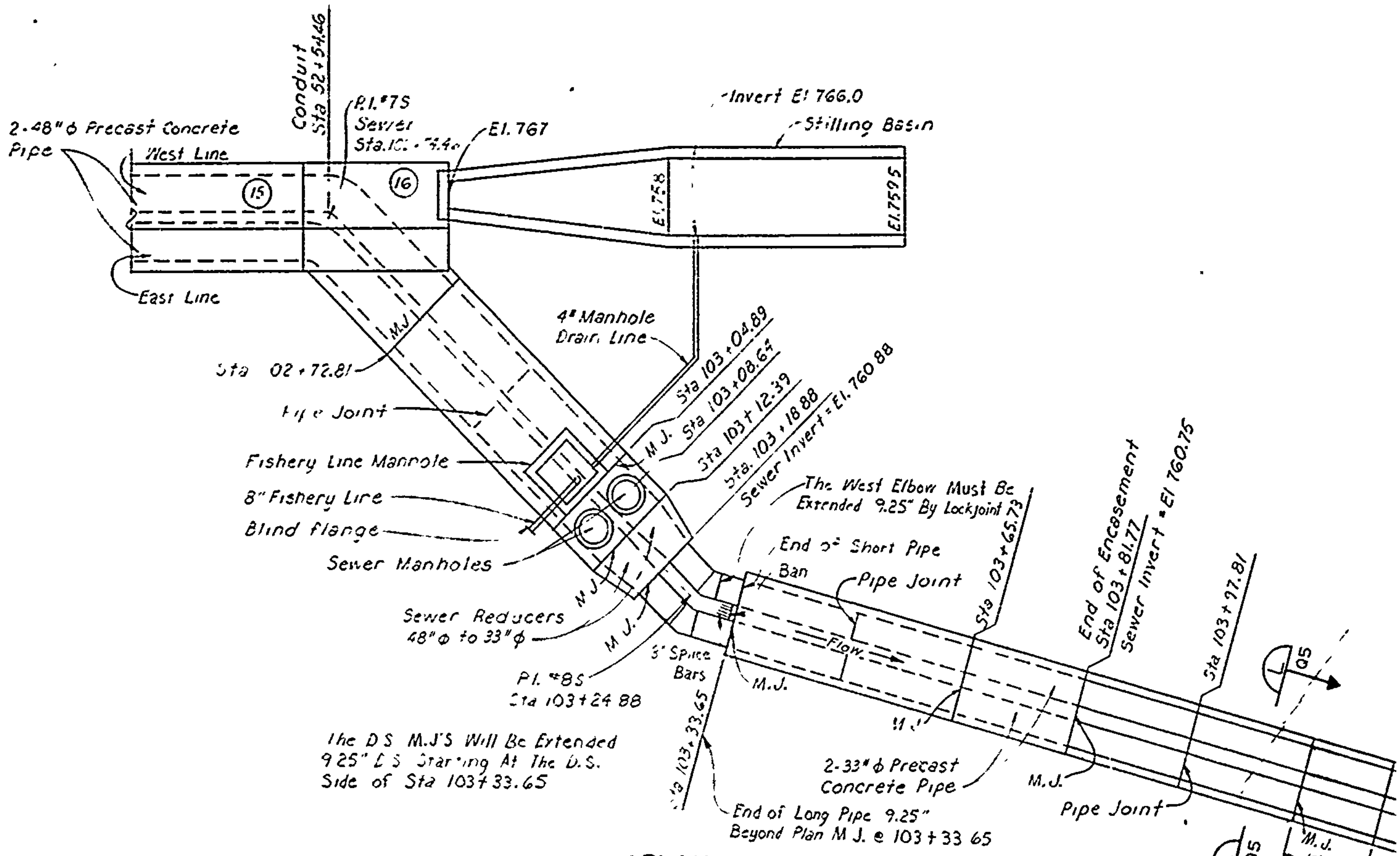
Designed by:
Drawn by:
Checked by:
Submitted by:

US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

CONDUIT MONOLITH I

Scale: AS SHOWN
Date: JUNE 1990
Dwg. No.:
Sheet number: 23
File No. RBL-2-1243



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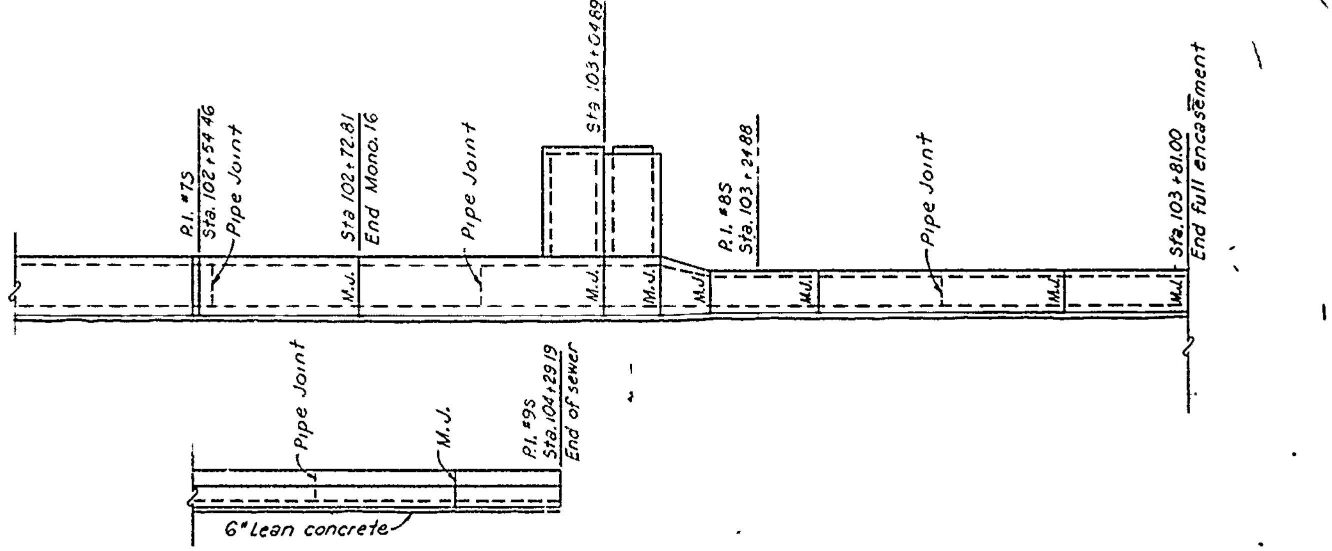
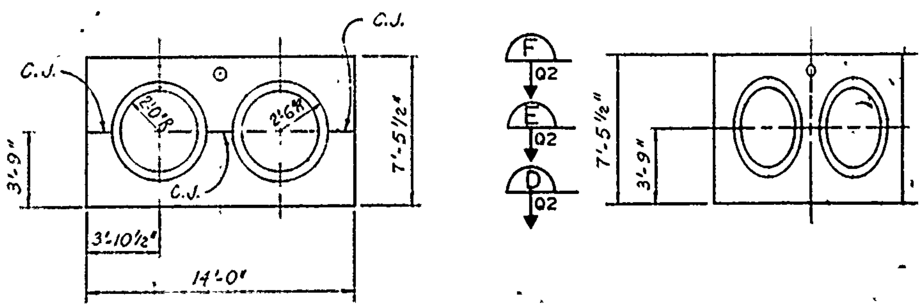


PROFILE
Scale 1"=10'-0"

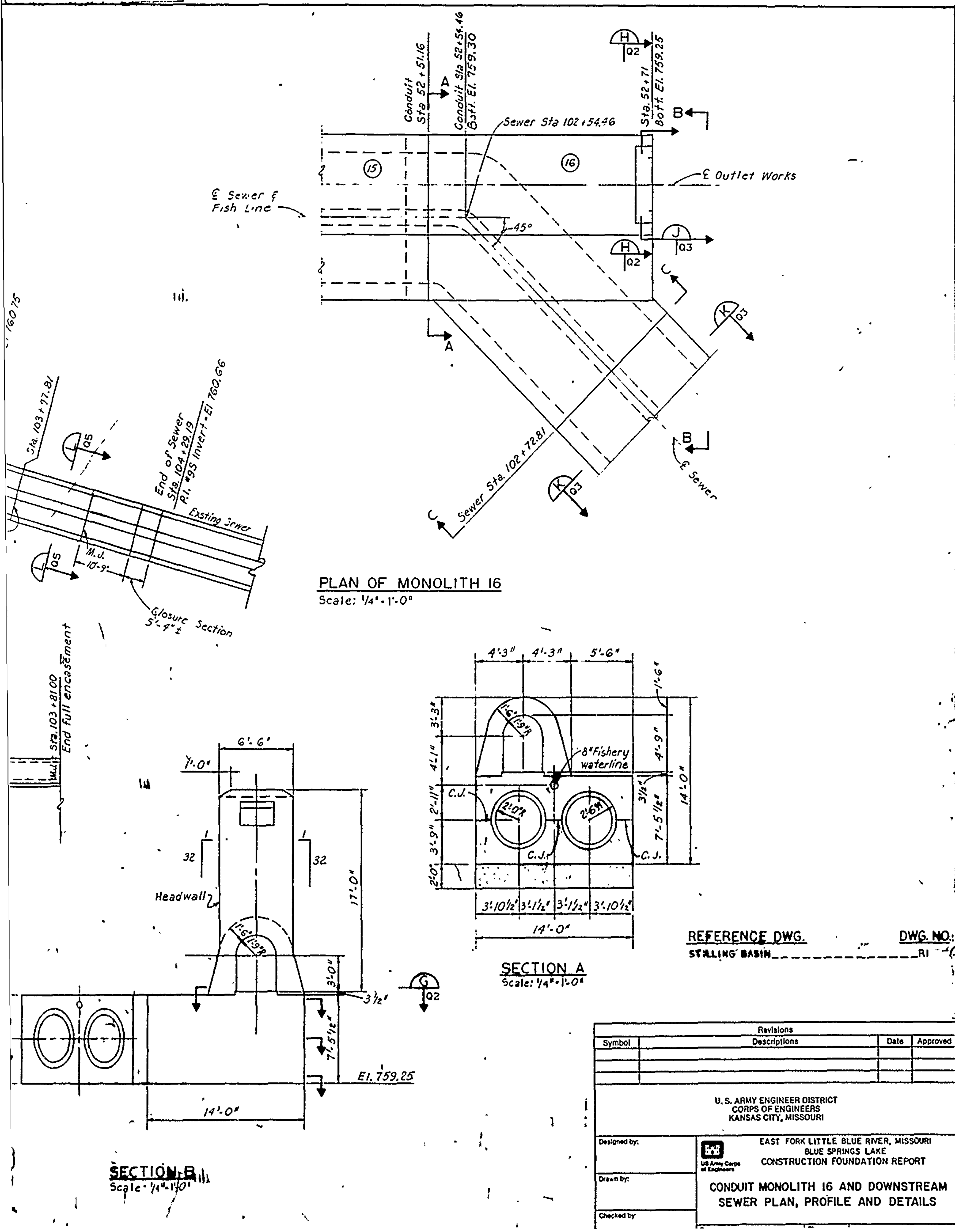


SECTION C
Scale: ¼"=1'-0"

SEC
Scale

CONCRETE QUANTITIES
DS SEWER ENCASEMENT
STA. 102+72.81 TO STA. 104+29.19
220 CU. YDS.

VALUE ENGINEERING PAYS



Symbol	Descriptions	Date	Approved

Revisions

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:

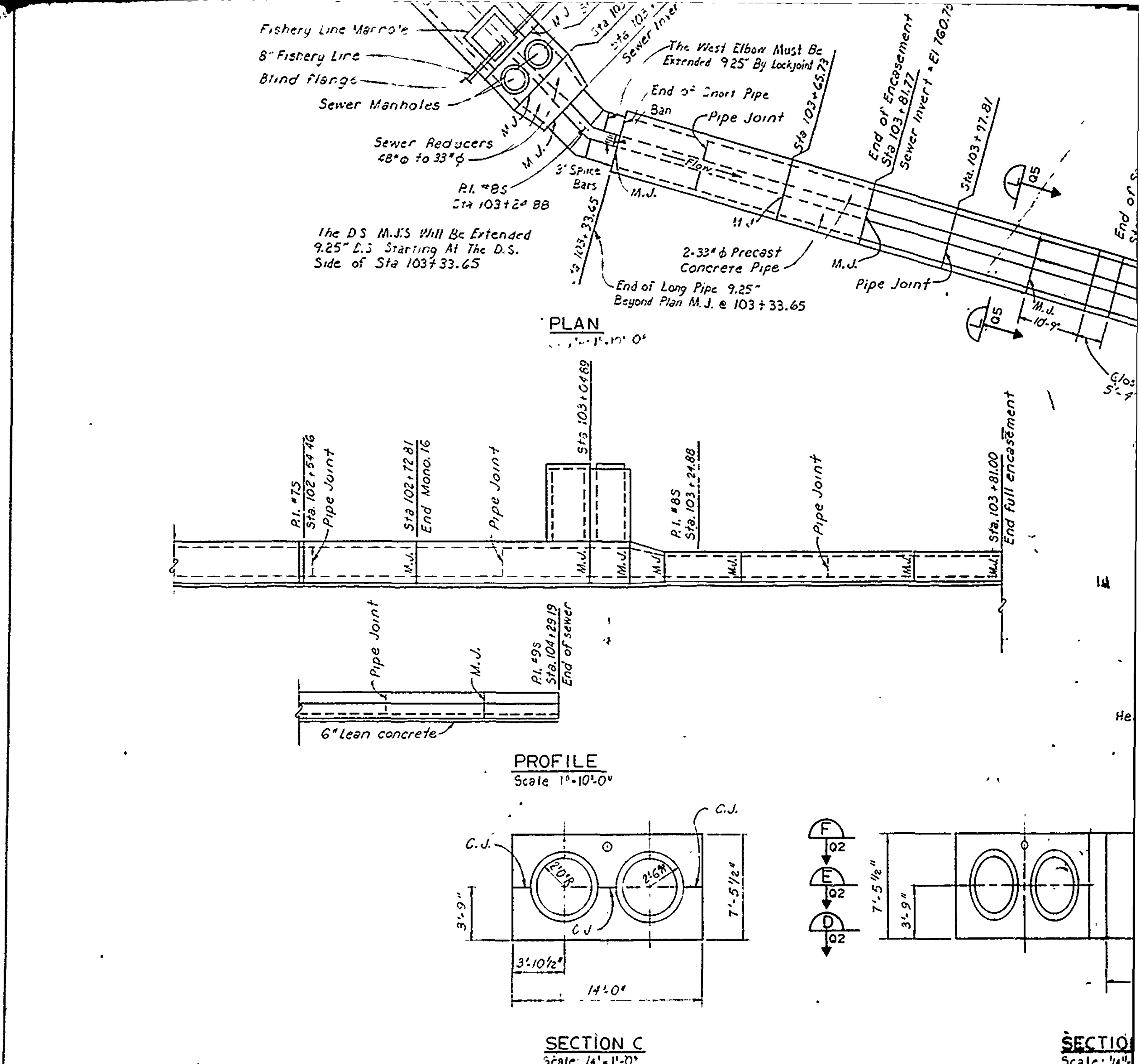
Drawn by:

Checked by:

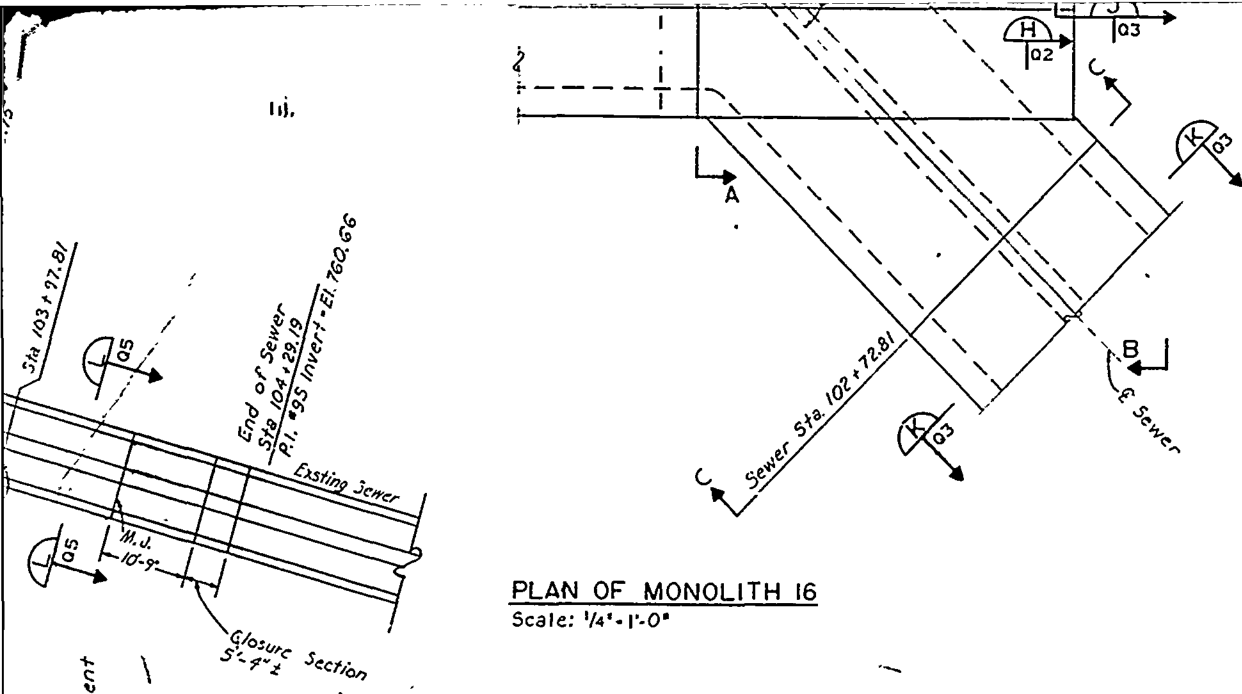
US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

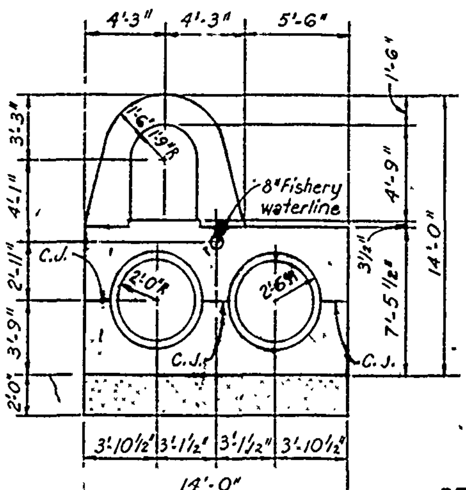
CONDUIT MONOLITH 16 AND DOWNSTREAM
SEWER PLAN, PROFILE AND DETAILS



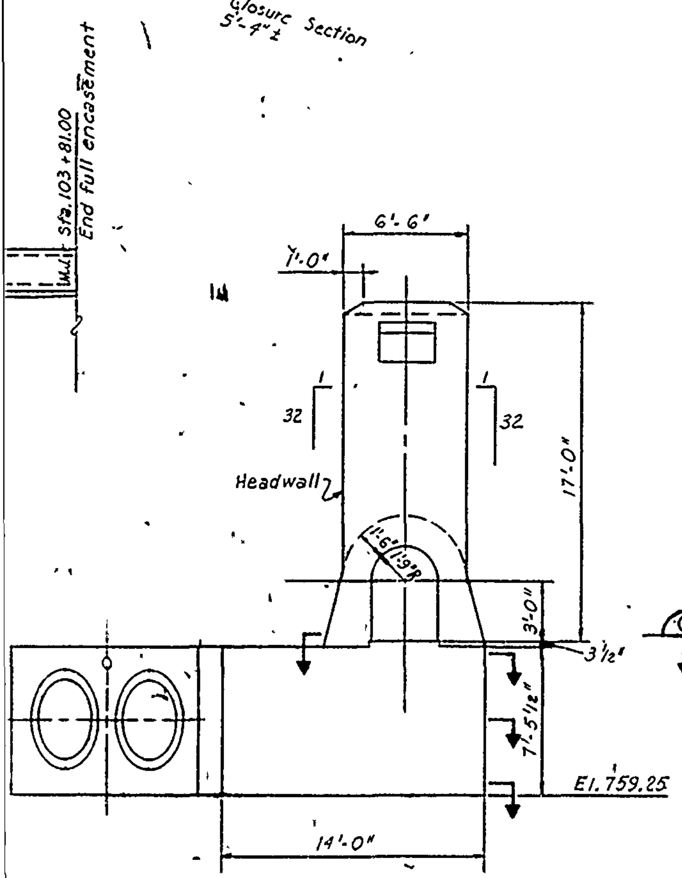
CONCRETE QUANTITIES
D.S. SEWER ENCASEMENT
STA. 102+72.81 TO STA. 104+29.19
220 CU. YDS.



PLAN OF MONOLITH 16
Scale: 1/4"=1'-0"



SECTION A
Scale: 1/4"=1'-0"



SECTION B
Scale: 1/4"=1'-0"

REFERENCE DWG. DWG. NO.

STILLING BASIN ____________________ R1

Symbol	Descriptions	Date	Approved

Revisions

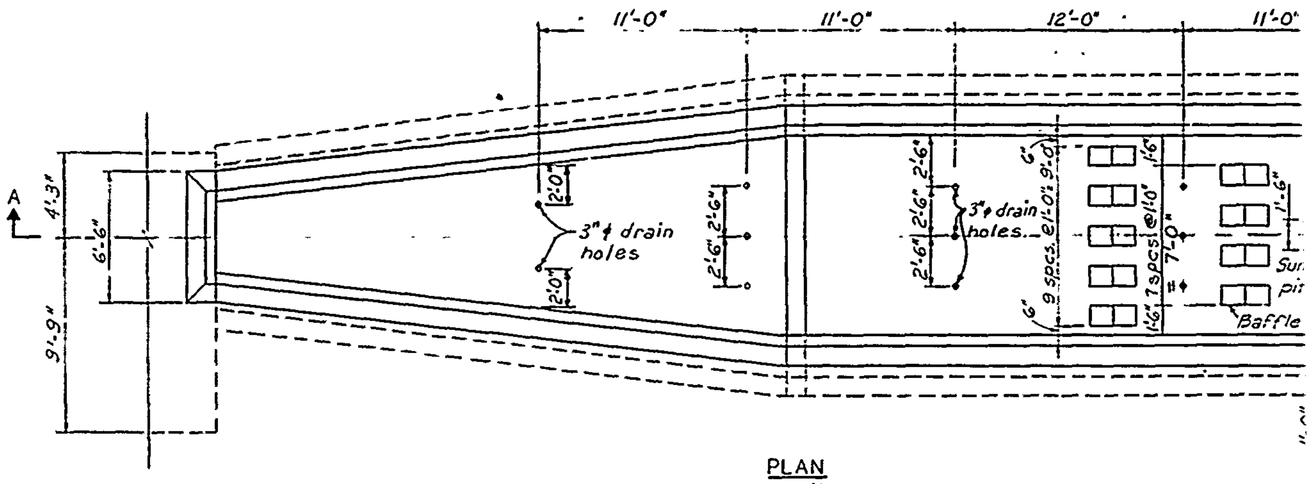
U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

US Army Corps of Engineers

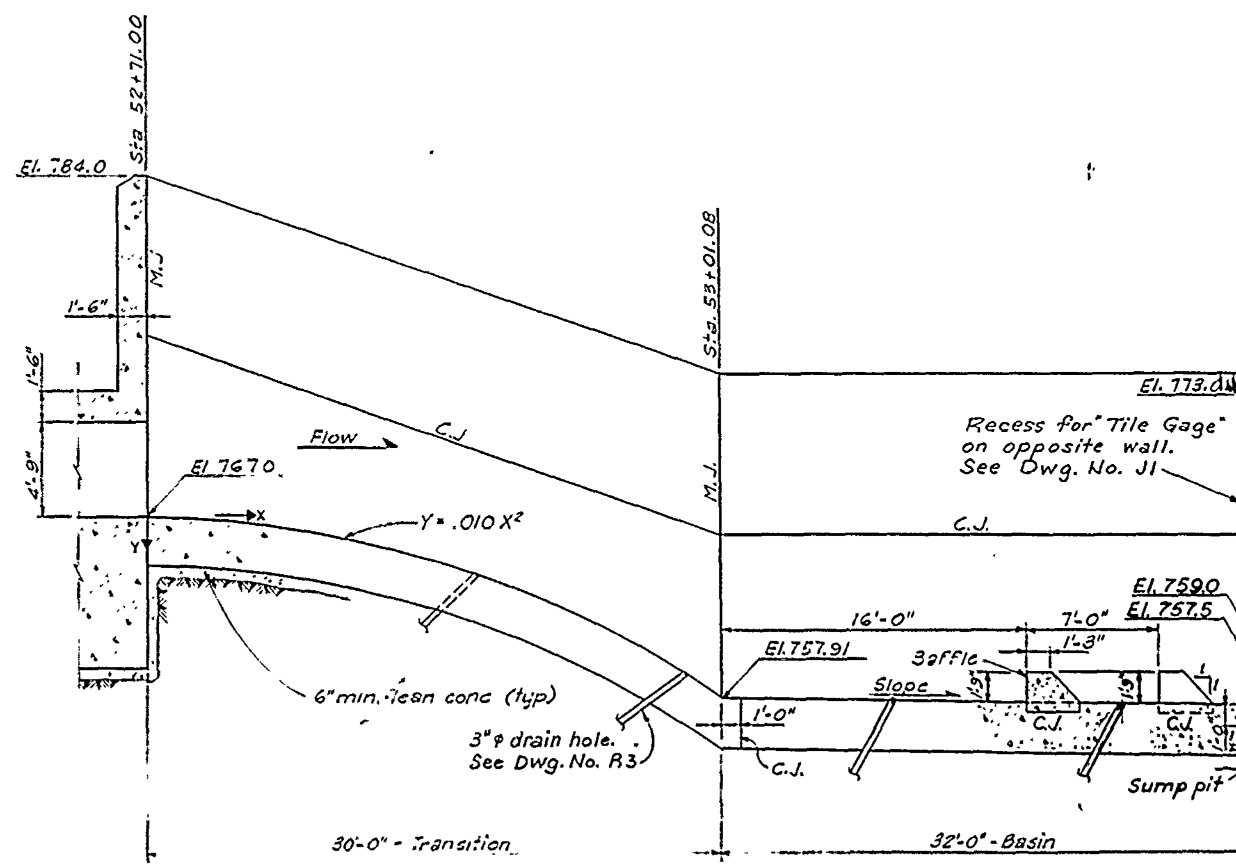
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

CONDUIT MONOLITH 16 AND DOWNSTREAM SEWER PLAN, PROFILE AND DETAILS

Designed by:	
Drawn by:	
Checked by:	
Submitted by:	
Scale.	AS SHOWN
Date.	JUNE 1990
Dwg. No.:	
Sheet number:	24
File No.:	RBL-2-1244



PLAN
Scale 1/4"=1'-0"

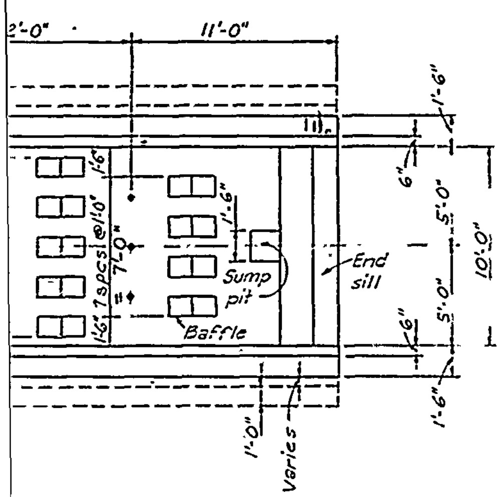


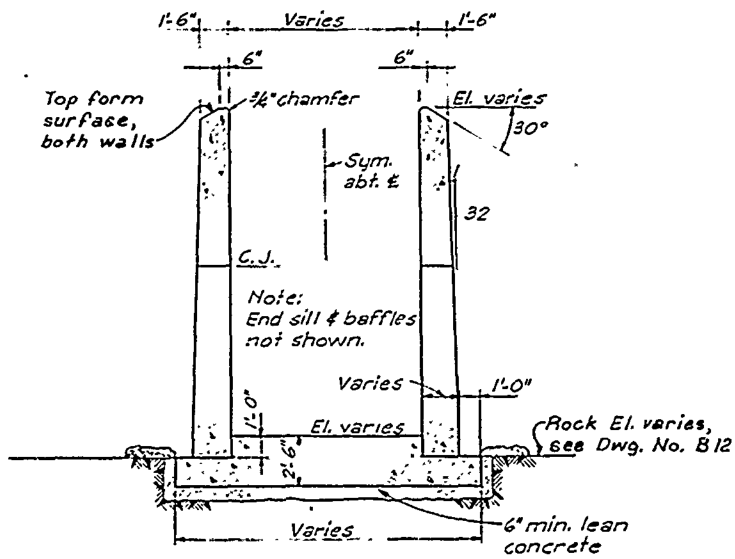
SECTION A
Scale 1/4"=1'-0"

CONCRETE QUANTITIES
STILLING BASIN
198 CU. YDS.

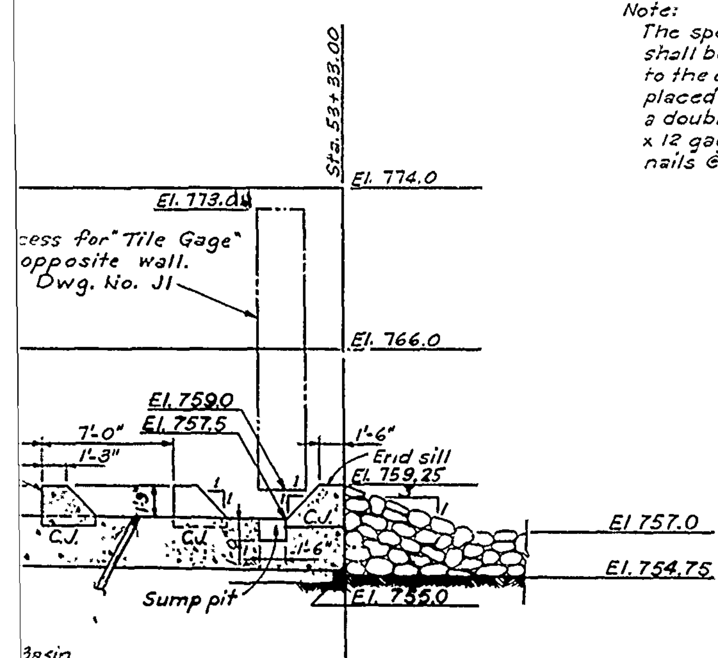
CURVE DATA

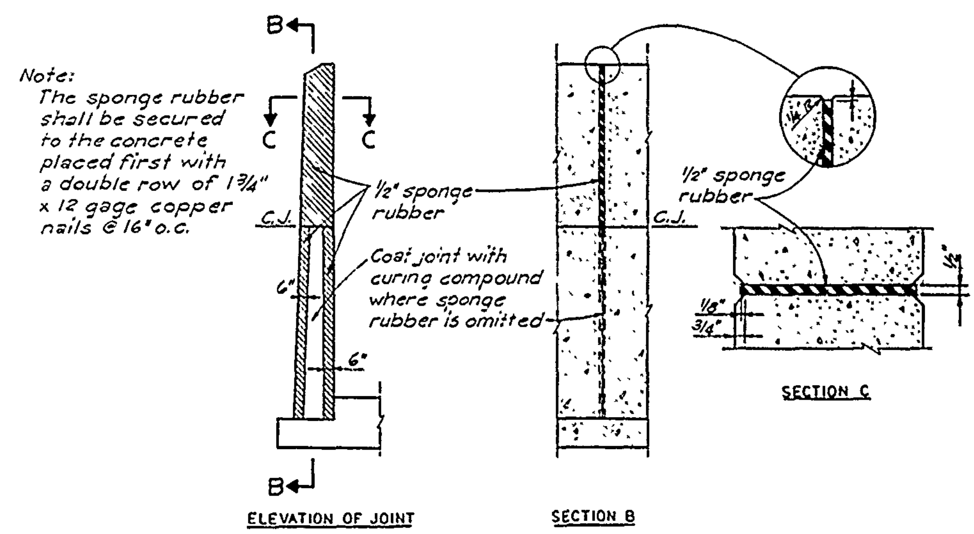
STATION	X	Y	ELEVATION
52+71	0	0.0	767.00
52+76	5	0.25	766.75
52+81	10	1.00	766.00
52+86	15	2.25	764.75





TYPICAL SECTION
Scale 1/4"=1'-0"





MONOLITH JOINT DETAIL
Not to Scale

GENERAL NOTES - STILLING BASIN

1. C.J. = Construction joint
   M.J. = Monolith joint
2. Reinforcement continuous thru Construction joints.
3. Reinforcement not continuous thru Monolith joints.
4. Reinforcement in top of base slab shall have a clear distance of 6" from surface of concrete. All other reinforcement shall have a clear distance of 4" from surface of concrete unless otherwise noted.
5. Reinforcement splice and anchorage lengths are shown on Dwg. No. H4
6. All exposed edges of concrete shall be chamfered 3/4" unless otherwise noted.

ELEVATION
767.00
766.75

Revisions			
Symbol	Descriptions	Date	Approved

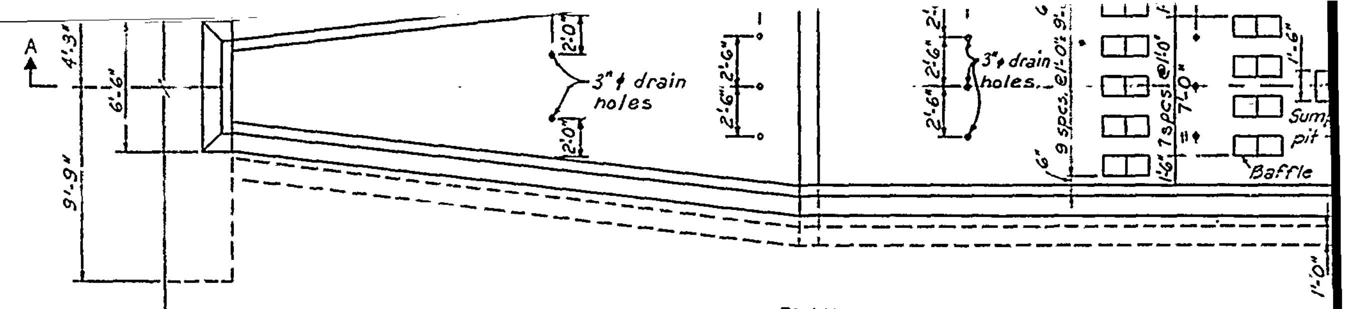
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:
Drawn by:

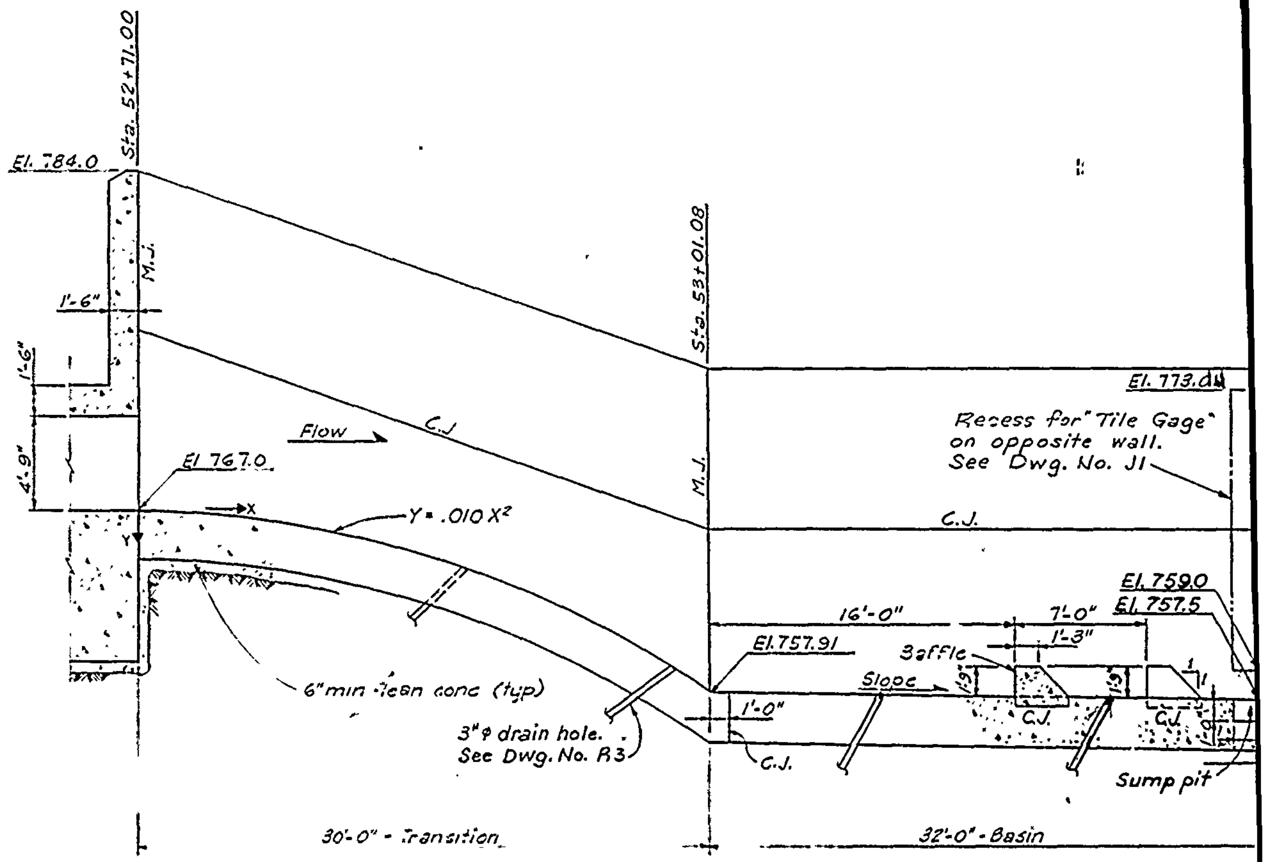
US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

STILLING BASIN



PLAN
Scale 1/4"=1'-0"

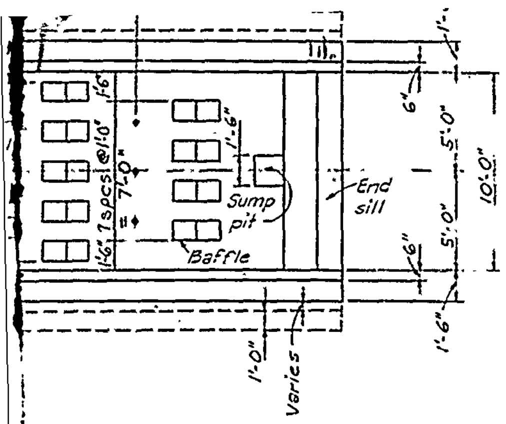


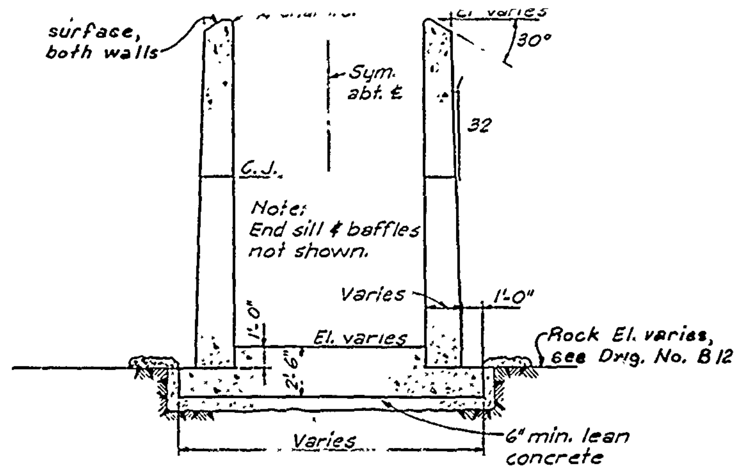
SECTION A
Scale 1/4"=1'-0"

CONCRETE QUANTITIES STILLING BASIN
198 CU. YDS.

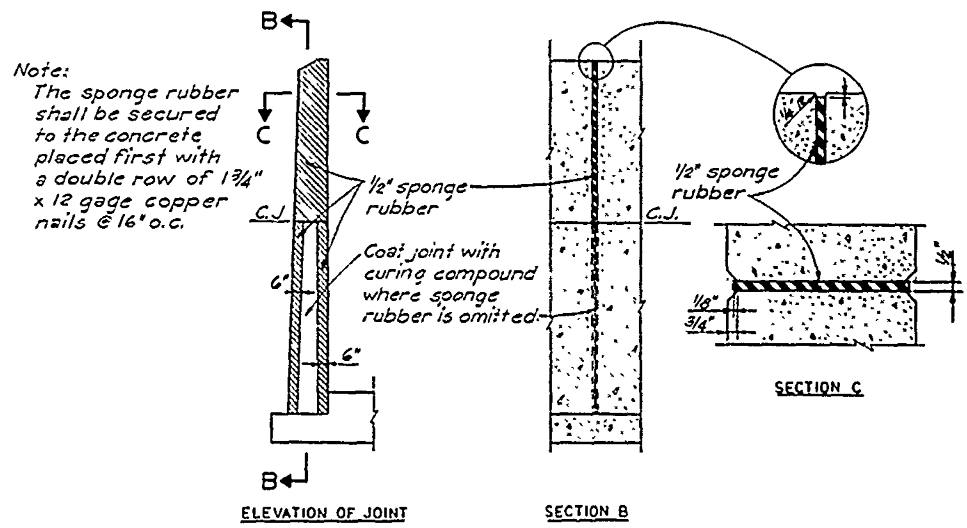
CURVE DATA

STATION	X	Y	ELEVATION
52+71	0	0.0	767.00
52+76	5	0.25	766.75
52+81	10	1.00	766.00
52+86	15	2.25	764.75
52+91	20	4.00	763.00
52+96	25	6.25	760.75
53+01	30	9.00	758.00

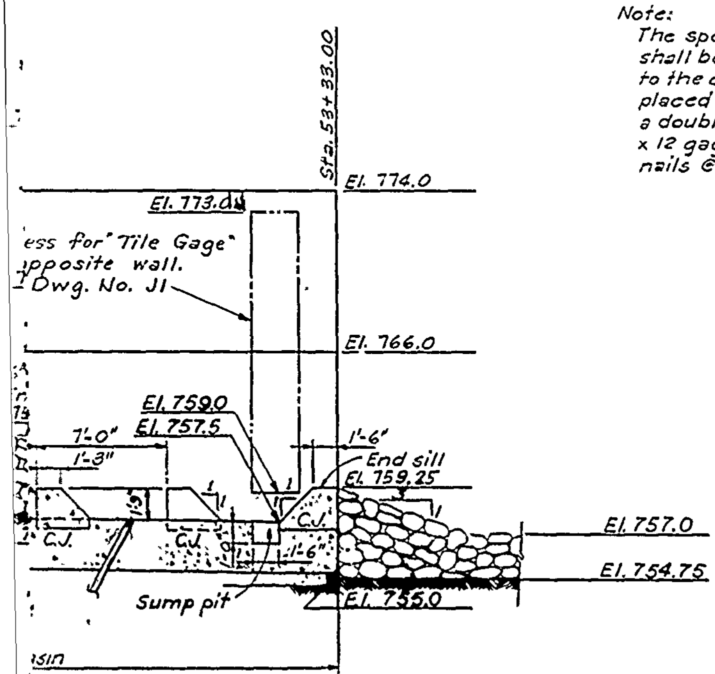




TYPICAL SECTION
Scale 1/4"=1'-0"



MONOLITH JOINT DETAIL
Not to Scale



ELEVATION
767.00
766.75
766.00
764.75
763.00
760.75
758.00

GENERAL NOTES - STILLING BASIN

1. C.J. = Construction joint
   M.J. = Monolith joint
2. Reinforcement continuous thru Construction joints.
3. Reinforcement not continuous thru Monolith joints.
4. Reinforcement in top of base slab shall have a clear distance of 6" from surface of concrete. All other reinforcement shall have a clear distance of 4" from surface of concrete unless otherwise noted.
5. Reinforcement splice and anchorage lengths are shown on Dwg. No. H4
6. All exposed edges of concrete shall be chamfered 3/4" unless otherwise noted.

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:
Drawn by:
Checked by:
Submitted by:

US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

STILLING BASIN
CONCRETE DIMENSIONS

Scale: AS SHOWN
Date: JUNE 1990
Dwg. No.:
Sheet number: 25
File No.: RBL-2-1245

PLATE NO. 25

GENERAL GEOLOGIC COLUMN

SYSTEM	GROUP	FORMATION	MEMBER OR ZONE	SYMBOL	AVERAGE THICKNESS AND RANGE ( )	GENERAL DESCRIPTION
PENNSYLVANIAN	KANSAS CITY	CHERRYVALE	WEA	WE	**7 7 + (20'-25)	SHALE with interbedded LIMESTONE Shale—soft to occasionally very soft platy clayey to slightly silty, occasionally fractured, gray weathers tan Limestone - moderately hard, partings to thin beds, finely crystalline, argillaceous, open stained fractures and bedding planes, light gray weathers tan
PENNSYLVANIAN	KANSAS CITY	CHERRYVALE	BLOCK	BL	**1 9 (1 -4)	LIMESTONE Moderately hard, medium to thin bedded, very finely crystalline, shaly light gray
PENNSYLVANIAN	KANSAS CITY	CHERRYVALE	FONTANA	FN	**2 2 (2'-5)	SHALE Soft, platy blocky, calcareous occasionally silty, dark gray to black
PENNSYLVANIAN	KANSAS CITY	DENNIS	WINTERSET	WS	13 6 (***)	LIMESTONE Moderately hard, medium to thick bedded, finely crystalline, black chert nodules to bands in upper half and shale partings lower half, light gray
PENNSYLVANIAN	KANSAS CITY	DENNIS	STARK	ST	3 2 (1 6- 5 2')	SHALE Soft, platy to fissile, calcareous, carbonaceous, occasional siltstone laminations lower part, medium gray upper grading to dark gray to black lower Occasionally contains a band to thin bed of shaly limestone to limy shale which is correlative with the Canville limestone member Contact with the Galesburg is usually transitional and often not defined
PENNSYLVANIAN	KANSAS CITY		[Undifferentiated Stark-Galesburg]	[SG]	[7 4]	
PENNSYLVANIAN	KANSAS CITY	GALESBURG		GA	4 2 (3 1 - 5 5)	SHALE Upper—soft, platy, silty, slightly calcareous, dark gray, Lower—soft to occasionally very soft, blocky, slightly silty, occasionally slickensided, gray to greenish gray Base occasionally transitional into the Bethany Falls "peanut rock"
PENNSYLVANIAN	KANSAS CITY	SWOPE	BETHANY FALLS	BF	22 1' (19 5 - 23 2)	LIMESTONE Moderately hard, medium to thick bedded, dense to very finely crystalline, numerous undulating shale partings and stylolites nodular ("peanut rock") zone at top 2 to 6 feet, joints are frequently solutioned and open to clay filled, occasional solutioning along bedding planes, light gray with dark gray shale Often found as very large slump blocks along valley walls
PENNSYLVANIAN	KANSAS CITY	SWOPE	HUSH-PUCKNEY	HP	2 5 (1 0'-3 2)	SHALE Soft, fissile to platy, clayey, silty at top, carbonaceous lower occasional siltstone laminae, dark gray to black weathers brown
PENNSYLVANIAN	KANSAS CITY	SWOPE	MIDDLE CREEK	MC	1 2' (0 5'-2 1')	LIMESTONE Moderately hard, thin bedded, finely crystalline, slightly shaly, shale band in middle, gray
PENNSYLVANIAN	KANSAS CITY	LADORE		LD	2 3' (0 6 -3 2')	SHALE Soft, platy, silty upper, calcareous lower, gray to dark gray. Contact with the Sniabar is frequently transitional and not well defined
PENNSYLVANIAN	KANSAS CITY	HERTHA	SNIABAR	SB	6 0' (4 7'- 7 1')	LIMESTONE Moderately hard, thin bedded to massive, finely crystalline, shaly top and bottom, occasional shaly partings light gray to tan Sometimes transitional contact with the Mound City
PENNSYLVANIAN	KANSAS CITY	HERTHA	MOUND CITY	MD	4 1' (2 0'- 6 0)	SHALE Soft, massive upper to platy lower, blocky, clayey, calcareous with occasional limy nodules upper, numerous slickensides upper, light gray green to light gray upper and gray lower Transitional into Critzer and contact often questionable.
PENNSYLVANIAN	KANSAS CITY	HERTHA	CRITZER	CZ	2.1' (1 2'- 6 0')	SHALE Soft, platy, clayey, slightly calcareous, limestone nodules and partings, occasionally slickensided, gray to occasionally gray green Occasionally transitional into Pleasanton
PENNSYLVANIAN	PLEASANTON (Undifferentiated)		ZONE A	P_a	21 6' (19 8'- 24 1')	SHALE interlaminated with SILTSTONE and SANDSTONE Soft, platy to occasionally massive, clayey, occasionally silty, occasionally calcareous, dark gray to gray green with light gray siltstone and sandstone The massive, non-silty, gray green shale checks rapidly. The sandstone is soft to moderately hard, thin bedded, fine grained and micaceous There is a fairly persistant zone of sandstone, from 0 5' to 2' thick, near the top of the Pleasanton
PENNSYLVANIAN	PLEASANTON (Undifferentiated)		ZONE B	P_b	9 4' (8 0'- 12 6')	SANDSTONE. Moderately hard to soft, medium bedded to massive with shale partings, fine to very fine grained, silty, micaceous, occasionally calcareous, occasional phosphate nodules, fossiliferous at base, light gray with dark gray laminae and partings. Frequently stained or weathered to light brown, especially when near surface
PENNSYLVANIAN	PLEASANTON (Undifferentiated)		ZONE C	P_c	60 3' (58 5'- 65 5)	SHALE and SILTSTONE Upper half—generally siltstone with occasional shale interbeds, but sometimes is all massive shale, moderately hard to soft, thin bedded, argillaceous, calcareous, pyritic, light to dark gray; Lower half—soft, thick to medium bedded, occasionally fissile, non-calcareous, occasional limestone nodules and thin beds lower part, very fossiliferous and carbonaceous to thin coal bed(s) at base, dark gray to nearly black
PENNSYLVANIAN	PLEASANTON (Undifferentiated)		ZONE D	P_d	8 8' (5 9'- 10 7)	UNDERCLAY and SHALE Underclay is soft, massive to thin bedded, disseminated carbonaceous particles, calcareous with sparse limestone nodules, light greenish gray, shale is soft, thin bedded with occasional thin interbeds of siltstone and micaceous sandstone Limestone nodules are sparsely distributed throughout the zone
PENNSYLVANIAN	PLEASANTON (Undifferentiated)		ZONE E	P_e	6 5' (4 2 - 9 1')	SANDSTONE Soft to moderately hard, thin bedded with occasional shale and siltstone partings to interbeds, very fine grained, micaceous, occasional limestone nodules, disseminated carbonaceous particles, limy at base, light gray to light greenish gray, with dark gray laminae Correlative with Hepler member?
PENNSYLVANIAN	MARMATON		HOLDENVILLE	HO	9 7' (7.8'- 10 7)	SHALE Soft, thin bedded, fissile, clayey, calcareous with occasional limestone partings to thin beds, occasional siltstone at top, dark gray with light gray laminae, red brown zone at base.
PENNSYLVANIAN	MARMATON		LENAPAH	LP	*12 0' (1 -23)	INTERBEDDED SHALE, SANDSTONE and SILTSTONE Shale—soft, fissile to massive, clayey, non-calcareous, varicolored gray, green and red, Sandstone—moderately hard, massive, fine to medium grained, occasionally calcareous and micaceous, greenish gray; Siltstone—soft to moderately hard, partings to massive, non-calcareous, occasionally clayey, gray to greenish gray, reddish gray, where clayey Thin COAL and UNDERCLAY at top of unit underclay usually slickensided reddish gray to greenish gray

*Full unit thickness not penetrated Range shown is reported for region
**Only penetrated in one boring (DC-1 A)
***Full unit thickness penetrated in only one boring—Regional thickness reportedly 25 to 40 feet

TYPE OF EXPLORATION

MAP SYMBOL	CODE DESI
● Vertical boring	D Drive sampl
30° ● Inclined boring showing direction and vertical angle	C Core hole
	TP Test pit (in 24" or larg
	U Undisturbed
■ Hand or machine dug test pit	A Auger hole h auger less th
	NS Not Sampl (Field Clas cuttings or
	FS Field Secti

TERMS FOR CONSISTENCY SOIL AND HARDNESS OF BEC

SOIL

Consistency	Estimated Unconfined Compressive (Tons per square foot)
Very soft	<0 25
Soft	0 25 0 5
Medium	0 5 1 0
Stiff	1 0 2 0
Very stiff	2 0 4 0
Hard	>4 0

BEDROCK

SCALE OF HARDNESS

Very soft or plastic	Can be indented e
Soft	Can be scratched
Moderately hard	Can be scratched cannot be scratche
Hard	Difficult to scratch
Very Hard	Cannot be scratch

BEDROCK UNIT THICKNES

Parting	<0 02'
Band	0 02 to 0 2'
Thin Bed	0 2' to 0 5'
Medium bed	0 5' to 1 0
Thick bed	1 0' to 2 0'
Massive	>2 0'

ABBREVIATIONS

alt	alternating	dmp	damp	lea
ang	angular	dol (c)	dolomite, (dolomitic)	lig
an	anhydrite	ext	extremely	ls
ar	argillaceous	f (y)	fine, (finely)	lt
bdd	bed, bedded, bedding	fe	iron	lo
br	bedrock	fld	filled	LC
bky	blocky	fm	firm	LDW
bl	blue	fos (s)	fossil, (fossiliferous)	med
bld	boulder	frac (d)	fractures, (fractured)	mic
blk	black	frag (d)	fragments, (fragmented)	min
brec (d)	breccia, (brecciated)	fri	friable	mod (y)
brk	broken	fsl	fissile	mot
brn	brown	gr	grain	mss
c	coarse	gra	gradation	mst
calc	calcareous	grn	green	mtl
carb	carbonaceous	grv (y)	gravel, (gravelly)	mtx
cav	cavity	gry	gray	nod
cbl	cobble	gyp	gypsum	num
cht	chert	ha	high angle	occ (y)
circ	circulation	hd	hard	op
cl (y)	clay, (clayey)	hld	healed	or
cld	closed	hor	horizontal	org
cmtd	cemented	inbd	interbedded	par
col	columnar	incl	inclusions	pit
conc	concretions	inlam	interlaminated	pl
cong	conglomerate	irr	irregular	pla
crm	crumbly	jt (s)	joint, (joints)	pln
d	dense	la	low angle	ptg (s)
dk	dark	lam (d)	laminae, (laminated)	qtz (e)

VALUE ENGINEERING PAYS

TYPE OF EXPLORATION

SYMBOL	CODE DESIGNATION
... boring	D Drive sample hole
... boring showing ... and vertical angle	C Core hole
	TP Test pit (includes power auger 24" or larger diameter)
	U Undisturbed sample hole
... or machine ... test pit	A Auger hole hand or power auger less than 24" diameter
	NS Not Sampled Field Classification from cuttings only.
	FS Field Section of outcrop

TERMS FOR CONSISTENCY OF SOIL AND HARDNESS OF BEDROCK

SOIL

Consistency	Estimated Unconfined Compressive Strength Tons per square foot
	< 0.25
	0.25 0.5
	0.5 1.0
	1.0 2.0
	2.0 4.0
	> 4.0

BEDROCK

SCALE OF HARDNESS

... or plastic	Can be indented easily with thumb
	Can be scratched with fingernail
... hard	Can be scratched easily with knife, cannot be scratched with fingernail
	Difficult to scratch with knife
	Cannot be scratched with knife

BEDROCK UNIT THICKNESS

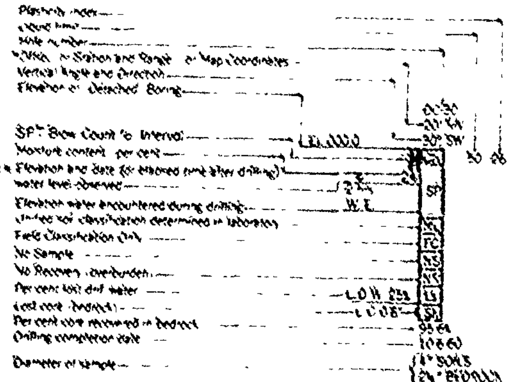
Parting	< 0.02
Band	0.02' to 0.2
Thin Bed	0.2' to 0.5
Medium bed	0.5' to 1.0
Thick bed	1.0' to 2.0
Massive	> 2.0

UNIFIED SOIL CLASSIFICATION SYSTEM

GW	Well graded gravels, gravel sand mixtures, little or no fines	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
GP	Poorly graded gravels or gravel sand mixtures, little or no fines	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
GM	Silty gravels, gravel-sand-silt mixtures	OL	Organic silts and organic silty clays of low plasticity
GC	Clayey gravels, gravel-sand-clay mixtures	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
SW	Well-graded sands, gravelly sands, little or no fines	CH	Inorganic clays of high plasticity, fat clays
SP	Poorly graded sands or gravelly sands, little or no fines	OH	Organic clays of medium to high plasticity, organic silts
SM	Silty sands, sand-silt mixtures	Pt	Peat and other highly organic soils
SC	Clayey sands, sand-clay mixtures		

Classification from ... lab ... tests when ... are shown
Dual classification where ... in the Unified Soil Classification System
For details on the Unified Soil Classification System, See Waterways Experiment Station Technical Memorandum No. 3-357 dated March 1953 and revised in 1960

LEGEND FOR LOGS OF BORINGS

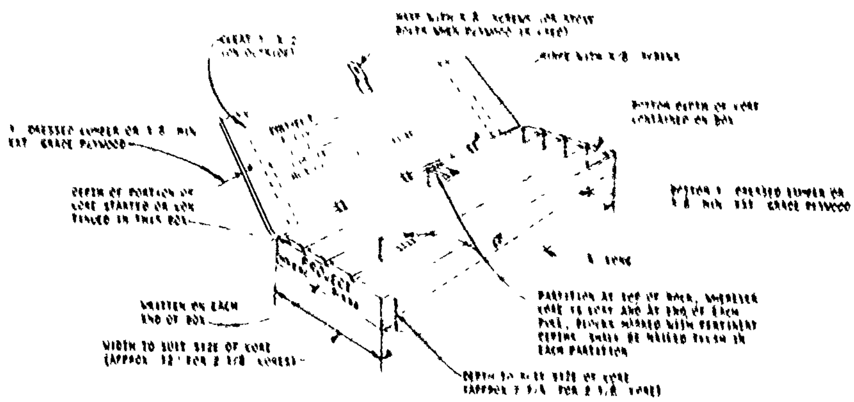


*Offset from profile or section may be Upstream or Downstream (U or D), Landward or Riverward (LW) or (RW), or Right or Left (R or L) as defined
**If no time or date shown, the level is at the completion of drilling
Pressure test and actual pressure used at top of test zone ... gpm loss

14

ABBREVIATIONS

	...	lea	leached	rnd (d)	round, (rounded)
	dolomite (dolomitic)	lg	lignite	sat	saturated
	extremely	ls	limestone	scat	scattered
	fine (finely)	lt	light	sd (y)	sand, (sandy)
	...	lo	loose	sev	several
	...	L.C.	lost core	sh (y)	shale (shaly)
	...	L.D.W.	lost drill water	si (t)	silt (silty)
	fossil (fossiliferous)	med	medium	sls	siltstone
	fractures, (fractured)	mic	micaceous	sl	slightly
	fragments (fragmented)	min	mineralized	slcs	siliceous
	...able	mod (y)	moderate, (moderately)	slks	slickensides
	...sile	mot	mottled	so	soft
	...	mss	massive	sol (d)	solution, (solutionized)
	...dation	mst	moist	ss	sandstone
	green	mtl	material	st (g)	stained (staining)
	gravel (gravelly)	mtx	matrix	stf	stiff
	gray	nod	nodules	sty	stylolitic
	gypsum	num	numerous	v	very
	high angle	occ (y)	occasional, (occasionally)	vert	vertical
	hard	op	open	vgy	vuggy
	healed	or	orange	w	water
	horizontal	org	organic	w	with
	interbedded	par	partially	wth	weathered
	inclusions	pt	pit, pitted, pitting	wht	white
	interlaminated	pl	plastic	x bdd	crossed bedded
	irregular	pla	platy	xln	crystalline
	joint (joints)	pln	plane	y	yellow
	low angle	ptg (s)	parting (partings)	When used as log symbol first letter is capitalized	
	laminae (laminated)	qtz (e)	quartz (quartzite)		



NOTE
LABELS FOR CORE BOX WILL BE PLACED ON OUTSIDE AND INSIDE OF COVER AND OUTSIDE ON EACH END

CORE BOX DETAILS
(FOR EXPLORATORY DRILLING)

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:
Drawn by:

US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

GENERAL GEOLOGIC

PENNSYLVANIAN	KANSAS CITY	CH-	FONTANA	FN	**2 2 (2'-5)	SHALE Soft, platy, blocky, calcareous, occasionally silty, dark gray to black
		DENNIS	WINTERSET	WS	13 6 (***)	LIMESTONE Moderately hard, medium to thick bedded, finely crystalline, black chert nodules to bands in upper half and shale partings lower half, light gray.
			STARK	S1	3 2' (1 6-5 2)	SHALE· Soft, platy to fissile, calcareous, carbonaceous, occasional siltstone laminations lower part, medium gray upper grading to dark gray to black lower Occasionally contains a band to thin bed of shaly limestone to limy shale which is correlative with the Canville limestone member. Contact with the Galesburg is usually transitional and often not defined
			[Undifferentiated Stark-Galesburg]	[SG]	[7 4']	
			GALESBURG	GA	4 2' (3 1-5 5')	SHALE Upper—soft, platy, silty, slightly calcareous, dark gray, Lower—soft to occasionally very soft, blocky, slightly silty, occasionally slickensided, gray to greenish gray. Base occasionally transitional into the Bethany Falls "peanut rock"
		SWOPE	BETHANY FALLS	BF	22 1 (19 5-23 2)	LIMESTONE Moderately hard, medium to thick bedded, dense to very finely crystalline, numerous undulating shale partings and stylolites, nodular ("peanut rock") zone at top 2 to 6 feet, joints are frequently solutioned and open to clay filled, occasional solutioning along bedding planes, light gray with dark gray shale. Often found as very large slump blocks along valley walls.
			HUSH-PUCKNEY	HP	2 5' (1 0-3 2)	SHALE· Soft, fissile to platy, clayey, silty at top, carbonaceous lower occasional siltstone laminae, dark gray to black weathers brown
			MIDDLE CREEK	MC	1.2' (0 5'-2 1')	LIMESTONE· Moderately hard, thin bedded, finely crystalline, slightly shaly, shale band in middle, gray.
			LADORE	LD	2 3' (0 6'-3 2')	SHALE: Soft, platy, silty upper, calcareous lower, gray to dark gray. Contact with the Sniabar is frequently transitional and not well defined
		HERTHA	SNIABAR	SB	6 0' (4.7-7.1')	LIMESTONE: Moderately hard, thin bedded to massive, finely crystalline, shaly top and bottom, occasional shaly partings, light gray to tan Sometimes transitional contact with the Mound City.
			MOUND CITY	MD	4 1' (2 0'-6 0)	SHALE Soft, massive upper to platy lower, blocky, clayey, calcareous with occasional limy nodules upper, numerous slickensides upper, light gray green to light gray upper and gray lower. Transitional into Critzer and contact often questionable.
			CRITZER	Cz	2 1' (1 2'-6 0)	SHALE: Soft, platy, clayey, slightly calcareous, limestone nodules and partings, occasionally slickensided, gray to occasionally gray green. Occasionally transitional into Pleasanton
	PLEASANTON (Undifferentiated)		ZONE A	P_a	21 6' (19 8'-24.1')	SHALE interlaminated with SILTSTONE and SANDSTONE: Soft, platy to occasionally massive, clayey, occasionally silty, occasionally calcareous, dark gray to gray green with light gray siltstone and sandstone The massive, non-silty, gray green shale checks rapidly. The sandstone is soft to moderately hard, thin bedded, fine grained and micaceous There is a fairly persistant zone of sandstone, from 0 5' to 2 thick, near the top of the Pleasanton
			ZONE B	P_b	9 4' (8 0'-12 6')	SANDSTONE. Moderately hard to soft, medium bedded to massive with shale partings, fine to very fine grained, silty, micaceous, occasionally calcareous, occasional phosphate nodules, fossiliferous at base, light gray with dark gray laminae and partings. Frequently stained or weathered to light brown, especially when near surface
			ZONE C	P_c	60 3' (58 5'-65 5)	SHALE and SILTSTONE· Upper half—generally siltstone with occasional shale interbeds, but sometimes is all massive shale; moderately hard to soft, thin bedded, argillaceous, calcareous, pyritic, light to dark gray. Lower half—soft, thick to medium bedded, occasionally fissile, non-calcareous, occasional limestone nodules and thin beds lower part, very fossiliferous and carbonaceous to thin coal bed(s) at base, dark gray to nearly black
			ZONE D	P_d	8 8' (5 9'-10 7)	UNDERCLAY and SHALE· Underclay is soft, massive to thin bedded, disseminated carbonaceous particles, calcareous with sparse limestone nodules, light greenish gray, shale is soft, thin bedded with occasional thin interbeds of siltstone and micaceous sandstone Limestone nodules are sparsely distributed throughout the zone
			ZONE E	P_e	6 5' (4 2'-9 1')	SANDSTONE Soft to moderately hard, thin bedded with occasional shale and siltstone partings to interbeds, very fine grained, micaceous, occasional limestone nodules, disseminated carbonaceous particles, limy at base, light gray to light greenish gray, with dark gray laminae. Correlative with Hepler member?
	MARMATON		HOLDENVILLE	Ho	9 7' (7 8'-10 7)	SHALE· Soft, thin bedded, fissile, clayey, calcareous with occasional limestone partings to thin beds, occasional siltstone at top, dark gray with light gray laminae, red brown zone at base
			LENAPAH	LP	*12 0' (1'-23)	INTERBEDDED SHALE, SANDSTONE and SILTSTONE Shale—soft, fissile to massive, clayey, non-calcareous, varicolored gray, green and red; Sandstone—moderately hard, massive, fine to medium grained, occasionally calcareous and micaceous, greenish gray, Siltstone—soft to moderately hard, partings to massive, non-calcareous, occasionally clayey, gray to greenish gray, reddish gray, where clayey Thin COAL and UNDERCLAY at top of unit underclay usually slickensided reddish gray to greenish gray

*Full unit thickness not penetrated Range shown is reported for region
**Only penetrated in one boring (DC-1 A)
***Full unit thickness penetrated in only one boring—Regional thickness reportedly 25 to 40 feet

(Tons per square foot)

Very soft	<025
Soft	025 05
Medium	05 10
Stiff	10 20
Very stiff	20 40
Hard	>40

BEDROCK

SCALE OF HARDNESS

Very soft or plastic	Can be indented easily
Soft	Can be scratched with
Moderately hard	Can be scratched easil cannot be scratched w
Hard	Difficult to scratch with
Very Hard	Cannot be scratched w

BEDROCK UNIT THICKNESS

Parting	<002'
Band	002' to 02'
Thin Bed	02' to 05'
Medium bed	05' to 10'
Thick bed	10' to 20'
Massive	>20'

ABBREVIATIONS

alt	alternating	dmp	damp	lea	leach
ang	angular	dol (c)	dolomite, (dolomitic)	lig	lignit
an	anhydrite	ext	extremely	ls	limes
ar	argillaceous	f (y)	fine, (finely)	lt	light
bdd	bed, bedded bedding	fe	iron	lo	loose
bdr	bedrock	fld	filled	LC	lost
bky	blocky	fm	firm	LDW	lost
bl	blue	fos (s)	fossil (fossiliferous)	med	medi
bld	boulder	frac (d)	fractures, (fractured)	mic	mica
blk	black	frag (d)	fragments, (fragmented)	min	mine
brec (d)	breccia (brecciated)	fri	friable	mod (y)	mode
brk	broken	fst	fissile	mot	mott
brn	brown	gr	grain	mss	mass
c	coarse	gra	gradation	mst	mois
calc	calcareous	grn	green	mtl	mate
carb	carbonaceous	grv (y)	gravel (gravelly)	mtx	matri
cav	cavity	gry	gray	nod	nodu
cbl	cobble	gyp	gypsum	num	num
cht	chert	ha	high angle	occ (y)	occa
circl	circulation	hd	hard	op	open
cl (y)	clay (clayey)	hld	healed	or	orang
cld	closed	hor	horizontal	org	orgar
cmtd	cemented	inbd	interbedded	par	parti
col	columnar	incl	inclusions	pt	pt p
conc	concretions	inlam	interlaminated	pl	plast
cong	conglomerate	irr	irregular	pla	platy
crm	crumbly	jt (s)	joint (joints)	pln	plane
d	dense	la	low angle	ptg (s)	parti
dk	dark	lam (d)	laminae, (laminated)	qtz (e)	quart

[SC] Clayey sands, sand-clay mixture [Pt] Peat and other highly organic soils

Classification from actual laboratory tests where LL and PI are shown

Dual classification where used is in accordance with the Unified Soil Classification System.

For details on the Unified Soil Classification System See Waterways Experiment Station Technical Memorandum No 3-357 dated March 1953 and revised in 1960

TERMS FOR CONSISTENCY OF SOIL AND HARDNESS OF BEDROCK

SOIL

Estimated Unconfined Compressive Strength (Tons per square foot)

< 0.25
0.25 0.5
0.5 1.0
1.0 2.0
2.0 4.0
> 4.0

BEDROCK

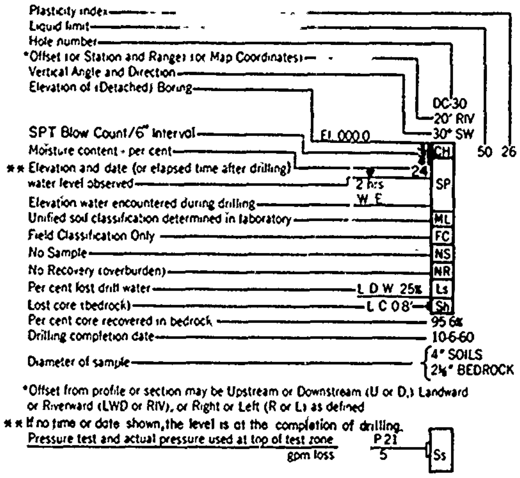
SCALE OF HARDNESS

plastic	Can be indented easily with thumb
	Can be scratched with fingernail.
hard	Can be scratched easily with knife, cannot be scratched with fingernail.
	Difficult to scratch with knife
	Cannot be scratched with knife

BEDROCK UNIT THICKNESS

Parting	< 0.02'
Band	0.02' to 0.2'
Thin Bed	0.2' to 0.5'
Medium bed	0.5' to 1.0'
Thick bed	1.0' to 2.0'
Massive	> 2.0'

LEGEND FOR LOGS OF BORINGS



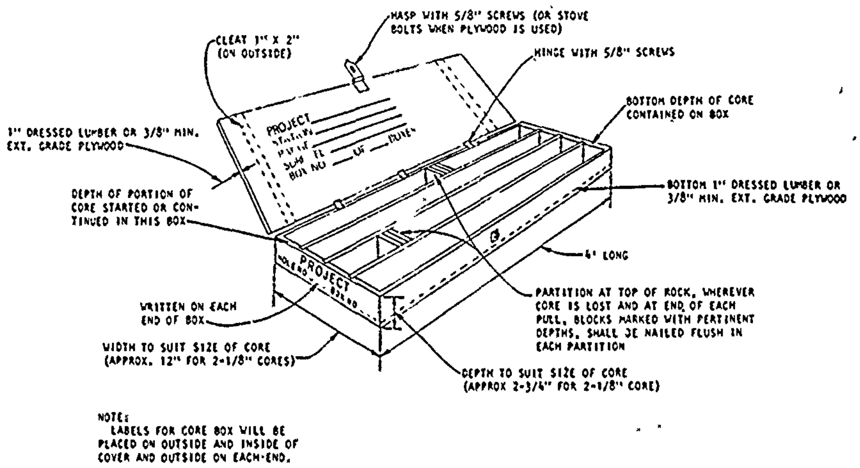
*Offset from profile or section may be Upstream or Downstream (U or D,) Landward or Riverward (LWD or RIV), or Right or Left (R or L) as defined

** If no time or date shown, the level is at the completion of drilling.

Pressure test and actual pressure used at top of test zone / gpm loss P 21 / 5 Ss

ABBREVIATIONS

...mp	lea	leached	rnd (d)	round (rounded)	
...lomite (dolomitic)	lig	lignite	sat	saturated	
...tremely	ls	limestone	scat	scattered	
...e (finely)	lt	light	sd (y)	sand, (sandy)	
...	lo	loose	sev	several	
...ed	L C	lost core	sh (y)	shale, (shaly)	
...	L D W	lost drill water	si (y)	silt, (silty)	
...ss (fossiliferous)	med	medium	sis	siltstone	
...ctures (fractured)	mic	micaceous	sl	slightly	
...gments (fragmented)	min	mineralized	slcs	siliceous	
...able	mod (y)	moderate, (moderately)	slks	slickensides	
...le	mot	mottled	so	soft	
...	mss	massive	sol (d)	solution, (solutionized)	
...ication	mst	moist	ss	sandstone	
...en	mtl	material	st (g)	stained (staining)	
...ve (gravelly)	mtx	matrix	stf	stiff	
...	nod	nodules	sty	stylolitic	
...sum	num	numerous	v	very	
...e angle	occ (y)	occasional, (occasionally)	vert	vertical	
...	op	open	vgy	vuggy	
...ed	or	orange	w	water	
...ntal	org	organic	w	with	
...bedded	par	partially	wth	weathered	
...sions	pit	pit, pitted, pitting	wht	white	
...laminated	pl	plastic	x bdd	crossed bedded	
...ar	pla	platy	xln	crystalline	
...oints)	pln	plane	y	yellow	
...ge	ptg (s)	parting, (partings)	When used as log symbol		
...ae (laminated)	qtz (ite)	quartz (quartzite)	first letter is capitalized		



NOTE:
LABELS FOR CORE BOX WILL BE PLACED ON OUTSIDE AND INSIDE OF COVER AND OUTSIDE ON EACH END.

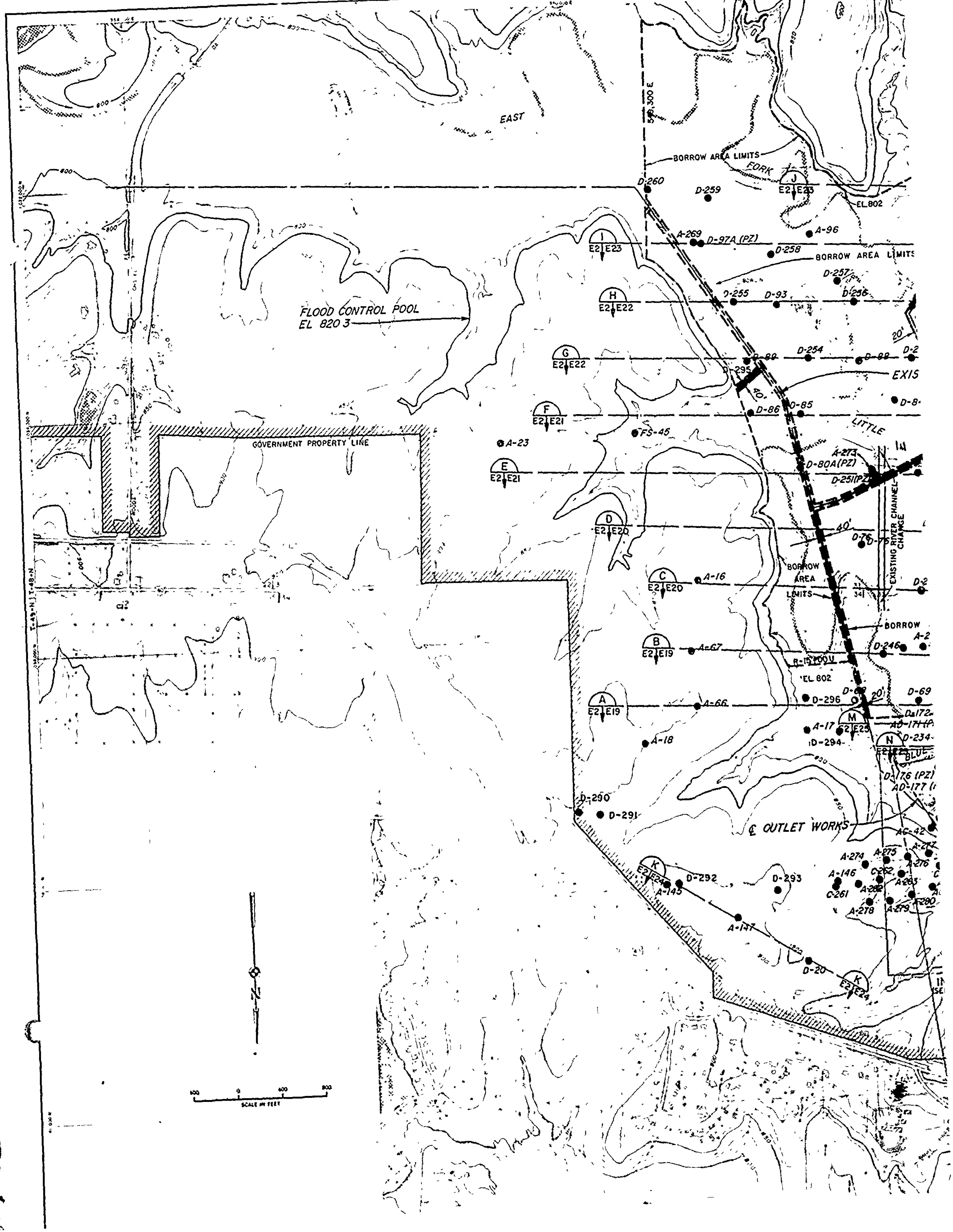
CORE BOX DETAILS

(FOR EXPLORATORY DRILLING)

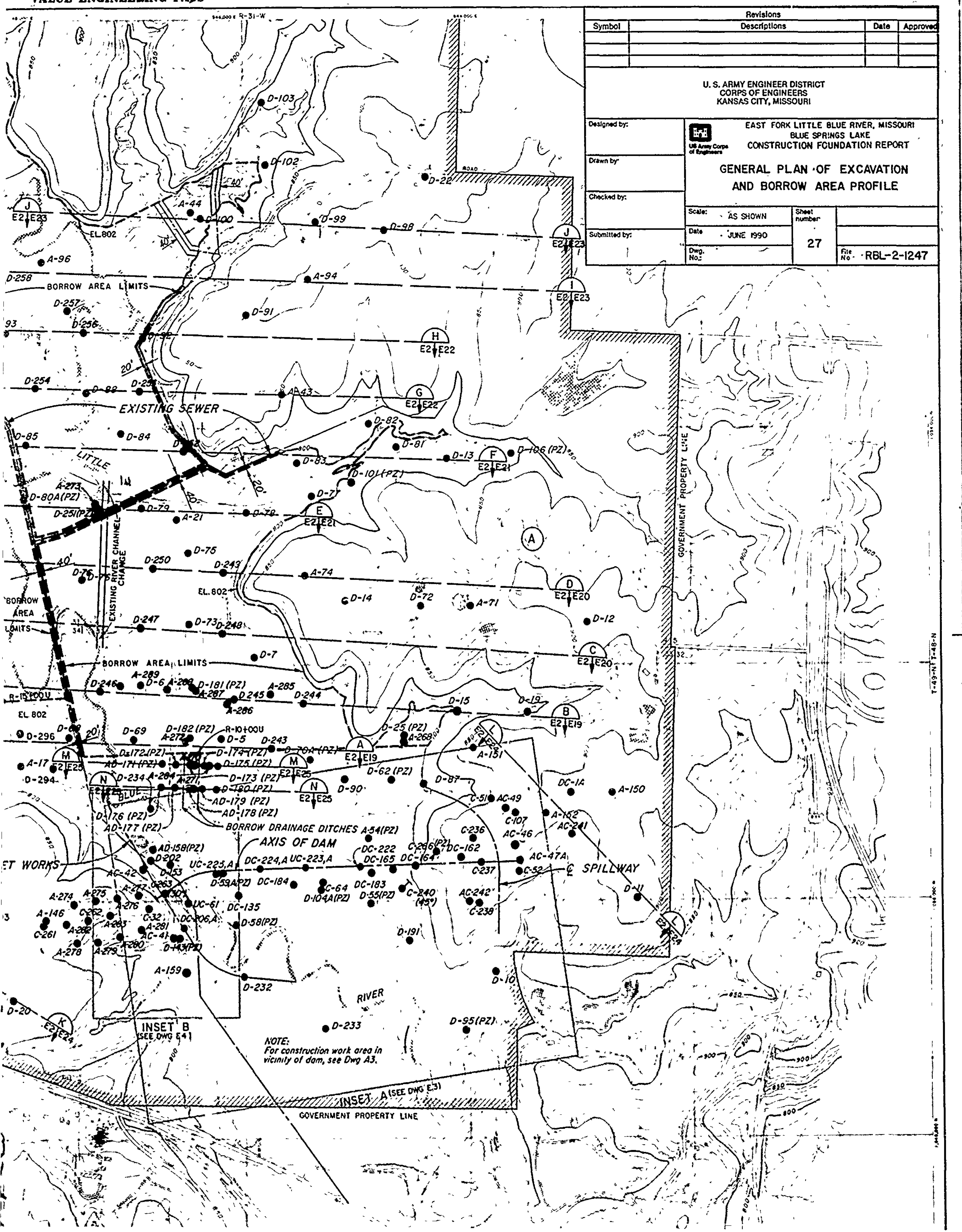
Revisions			
Symbol	Descriptions	Date	Approved

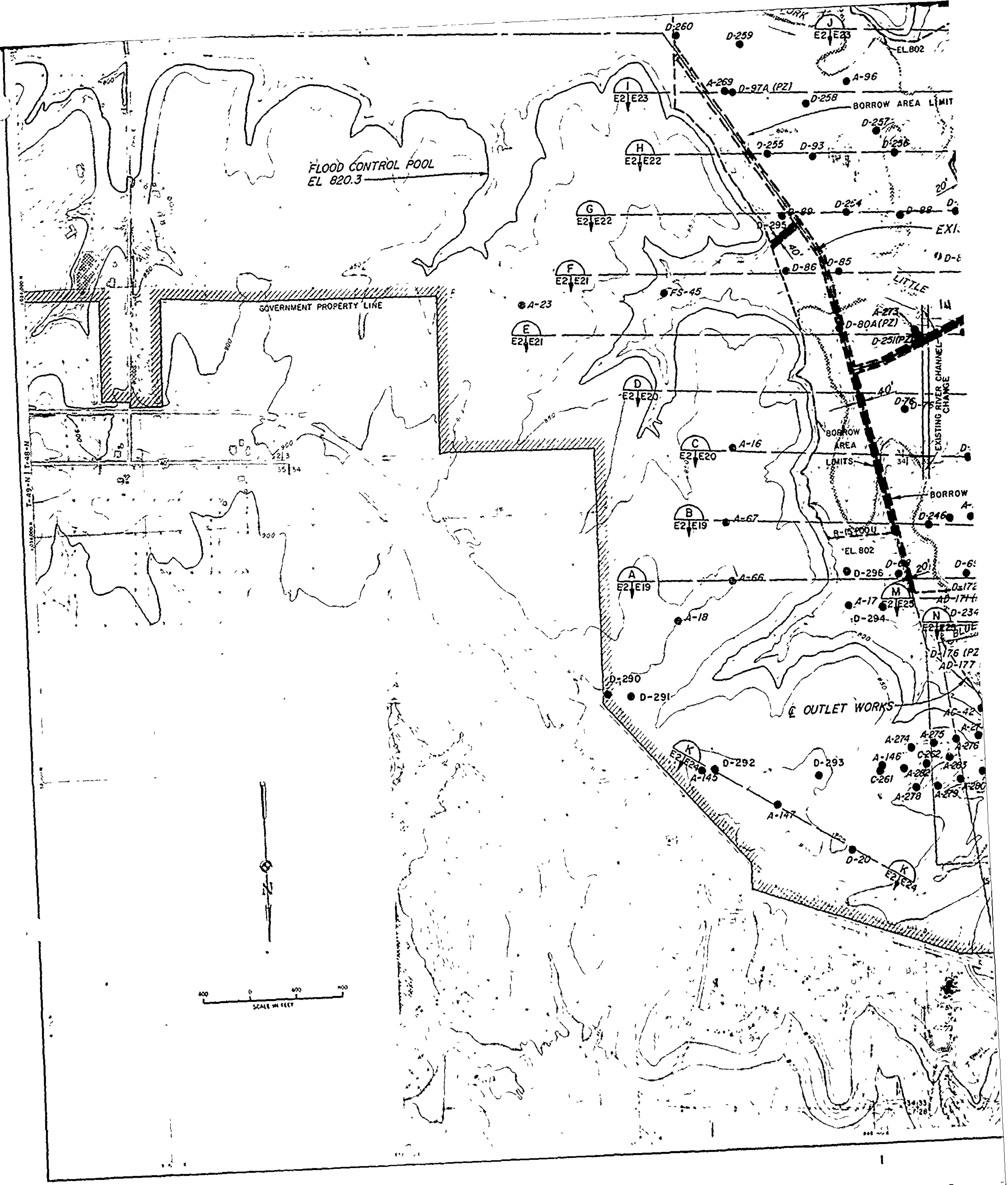
U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:	US Army Corps of Engineers — EAST FORK LITTLE BLUE RIVER, MISSOURI / BLUE SPRINGS LAKE / CONSTRUCTION FOUNDATION REPORT
Drawn by:	GENERAL GEOLOGIC COLUMN AND LEGEND
Checked by:	Scale: AS SHOWN — Sheet number:
Submitted by:	Date: JUNE 1990 — Dwg. No.: — 26 — File No.: RBL-2-1246


EAST
FORK
BORROW AREA LIMITS
FLOOD CONTROL POOL
EL 820 3
GOVERNMENT PROPERTY LINE
EL 802
LITTLE
EXISTING RIVER CHANNEL CHANGE
BORROW AREA LIMITS
BORROW
EL 602
OUTLET WORKS
BLUE
D-260
D-259
A-269
D-97A (PZ)
A-96
D-258
D-257
D-255
D-93
D-256
D-254
D-89
D-88
D-295
D-86
D-85
A-23
FS-45
A-273
D-80A(PZ)
D-251(PZ)
A-16
A-67
D-246
A-66
D-296
D-69
A-17
D-294
A-18
D-176 (PZ)
D-290
D-291
A-274
A-275
A-146
C-261
A-278
A-279
D-292
D-293
A-145
A-147
D-20
E2 E23
E2 E22
E2 E21
E2 E20
E2 E19
E2 E24
E2 E25
SCALE IN FEET

VALUE ENGINEERING PAYS




FLOOD CONTROL POOL
EL 820.3
GOVERNMENT PROPERTY LINE
BORROW AREA LIMIT
BORROW AREA LIMITS
BORROW
EXISTING RIVER CHANNEL CHANGE
LITTLE
EL. 802
Ⱡ OUTLET WORKS
D-260
D-259
D-258
D-257
D-255
D-93
D-256
D-254
D-89
D-88
D-295
D-86
D-85
D-80A(PZ)
D-251(PZ)
D-246
D-296
D-294
D-290
D-291
D-292
D-293
D-20
A-269
D-97A (PZ)
A-96
A-273
A-23
FS-45
A-16
A-67
A-66
A-17
A-18
A-145
A-147
A-274
A-275
A-276
A-146
C-261
A-278
A-279
AD-177
AC-42
D-176 (PZ)
D-234
E2 E19
E2 E20
E2 E21
E2 E22
E2 E23
E2 E24
E2 E25
SCALE IN FEET
1

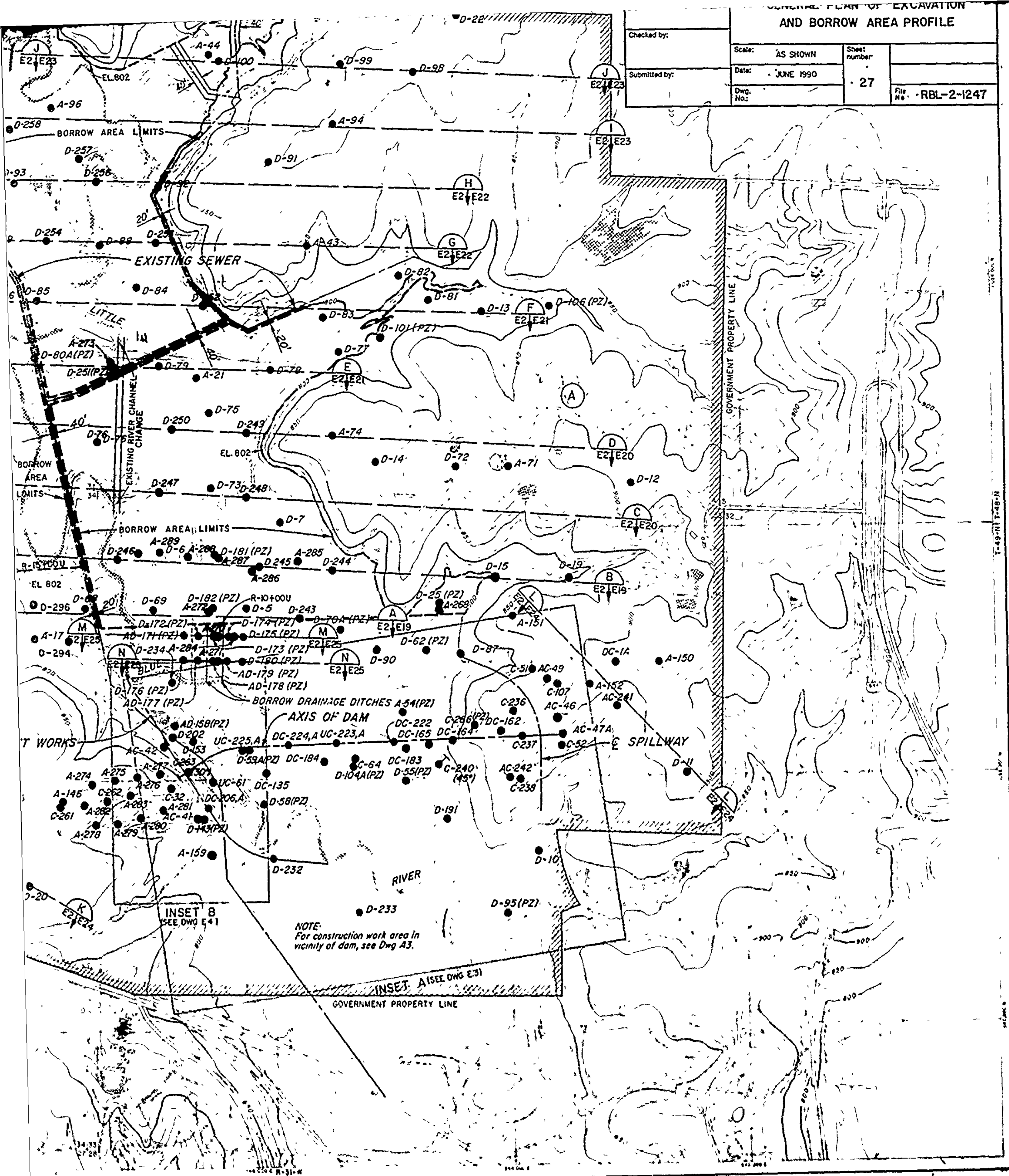
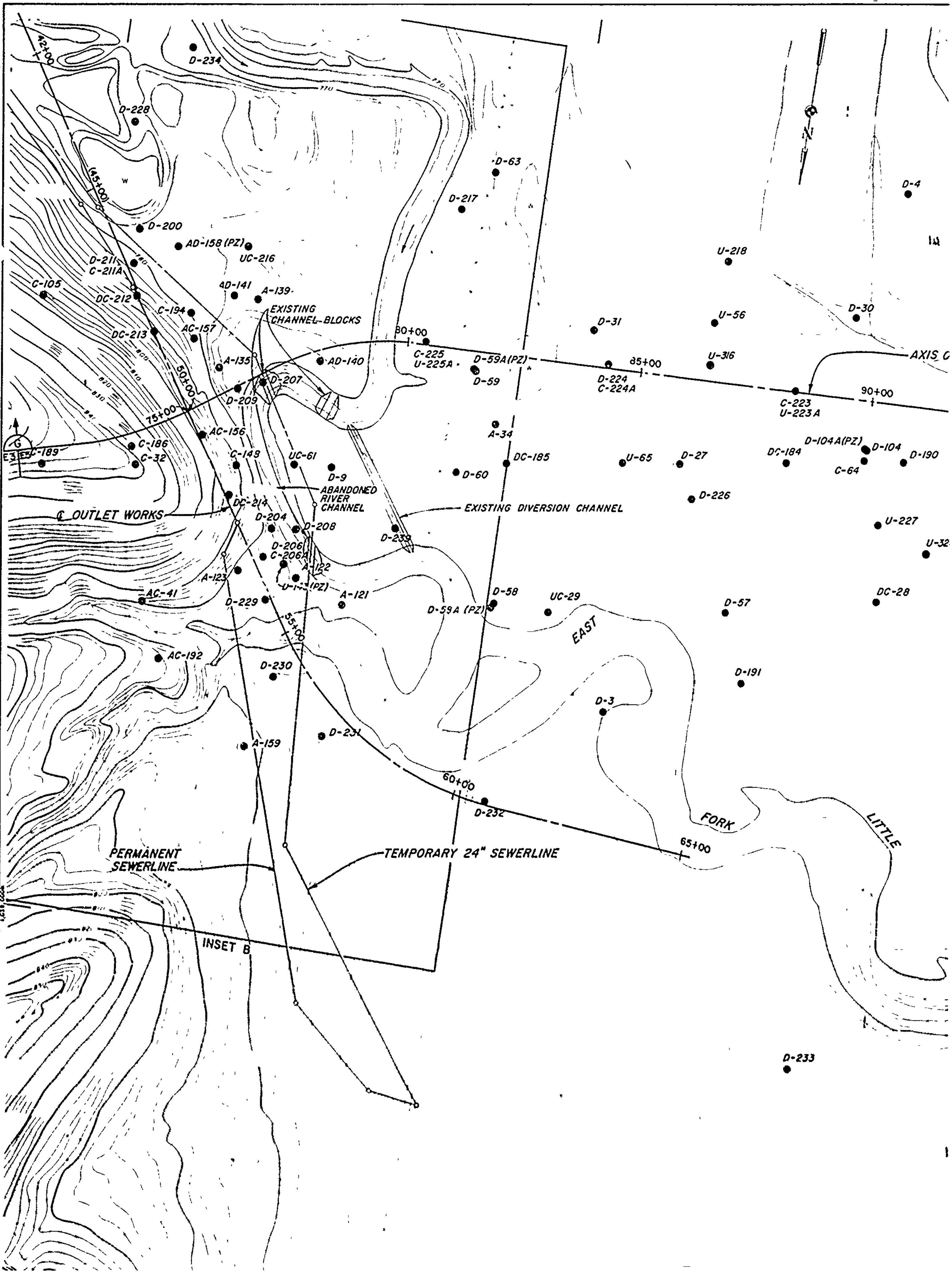
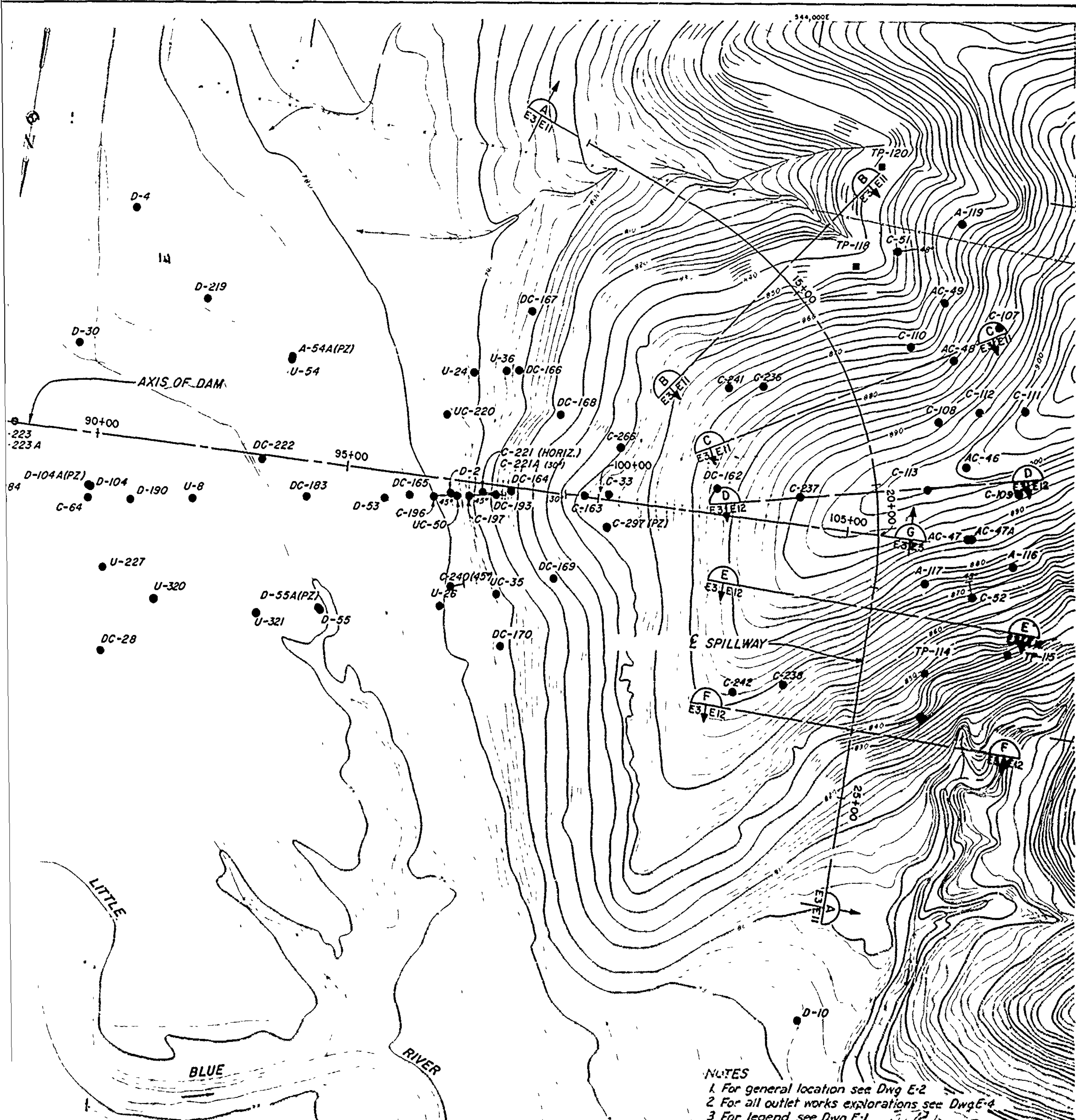

GENERAL PLAN OF EXCAVATION AND BORROW AREA PROFILE
Checked by:
Submitted by:
Scale: AS SHOWN
Date: JUNE 1990
Dwg. No.:
Sheet number 27
File No. RBL-2-1247
BORROW AREA LIMITS
EXISTING SEWER
LITTLE
EXISTING RIVER CHANNEL CHANGE
EL. 802
GOVERNMENT PROPERTY LINE
BORROW DRAINAGE DITCHES
AXIS OF DAM
SPILLWAY
RIVER
INSET B (SEE DWG E4)
INSET A (SEE DWG E3)
NOTE: For construction work area in vicinity of dam, see Dwg A3.

PLATE NO. 27


D-234
D-228
D-63
D-217
D-4
D-200
AD-158 (PZ)
UC-216
D-211
C-211A
U-218
C-105
DC-212
AD-141
A-139
EXISTING CHANNEL BLOCKS
C-194
AC-157
U-56
D-30
D-31
DC-213
80+00
C-225
U-225A
D-59A (PZ)
D-59
A-135
AD-140
85+00
D-224
C-224A
U-316
AXIS
D-207
D-209
50+00
75+00
90+00
C-223
U-223A
A-34
AC-156
C-186
C-189
C-32
C-148
UC-61
D-9
DC-185
U-65
D-27
DC-184
D-104A (PZ)
D-104
C-64
D-190
D-60
ABANDONED RIVER CHANNEL
D-226
DC-214
℄ OUTLET WORKS
EXISTING DIVERSION CHANNEL
D-204
D-208
D-239
U-227
D-206
C-206A
A-122
A-123
A-121
AC-41
D-229
D-58
D-59A (PZ)
UC-29
D-57
DC-28
55+00
EAST
AC-192
D-230
D-191
D-3
D-231
A-159
60+00
D-232
FORK
LITTLE
65+00
PERMANENT SEWERLINE
TEMPORARY 24" SEWERLINE
INSET B
D-233

VALUE ENGINEERING PAYS



NOTES

1. For general location see Dwg E-2
2. For all outlet works explorations see Dwg E-4
3. For legend see Dwg E-1
4. For Logs of Detached Borings see Dwgs. E-13 thru E-24

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

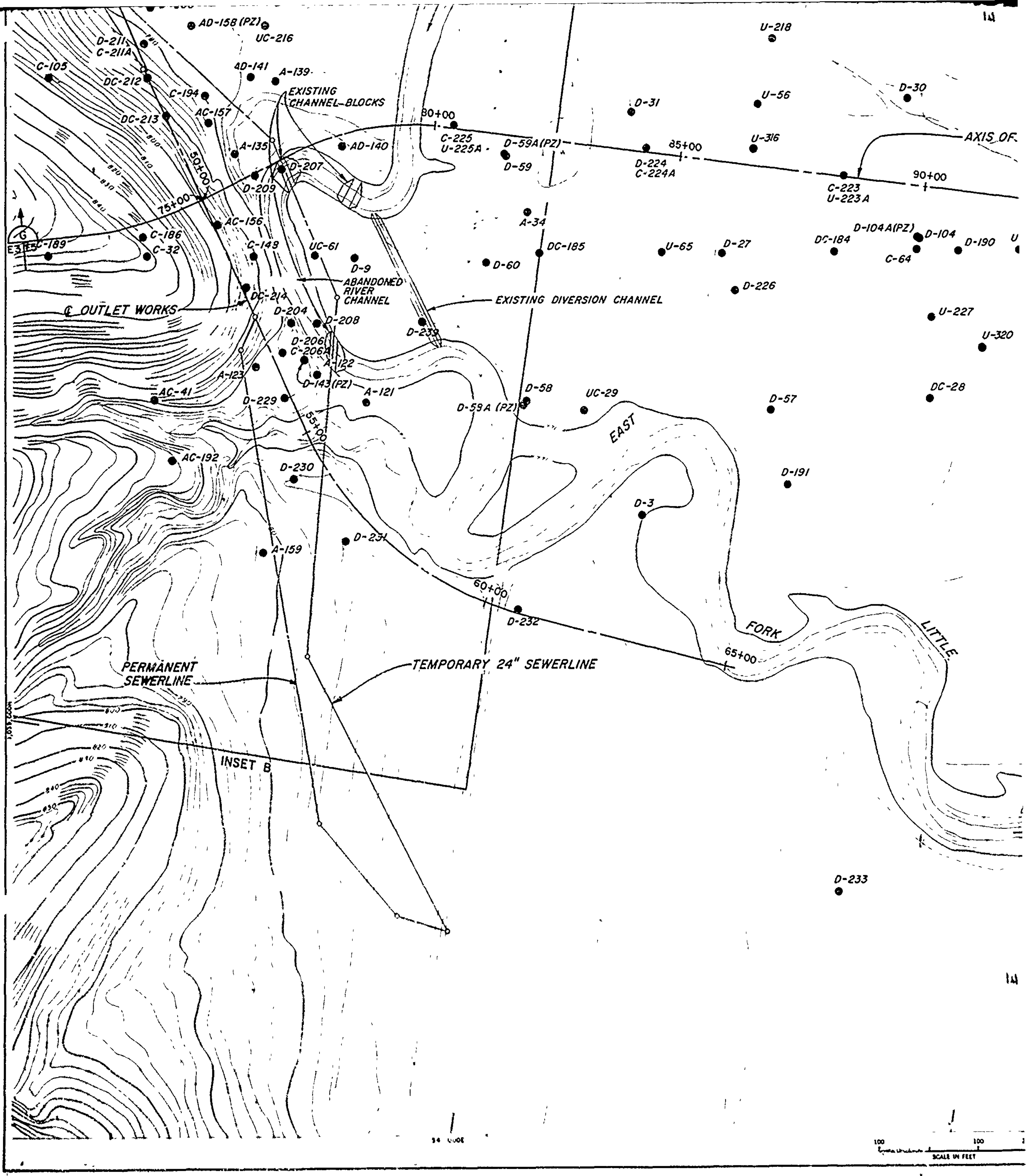
Designed by:
Drawn by:
Checked by:

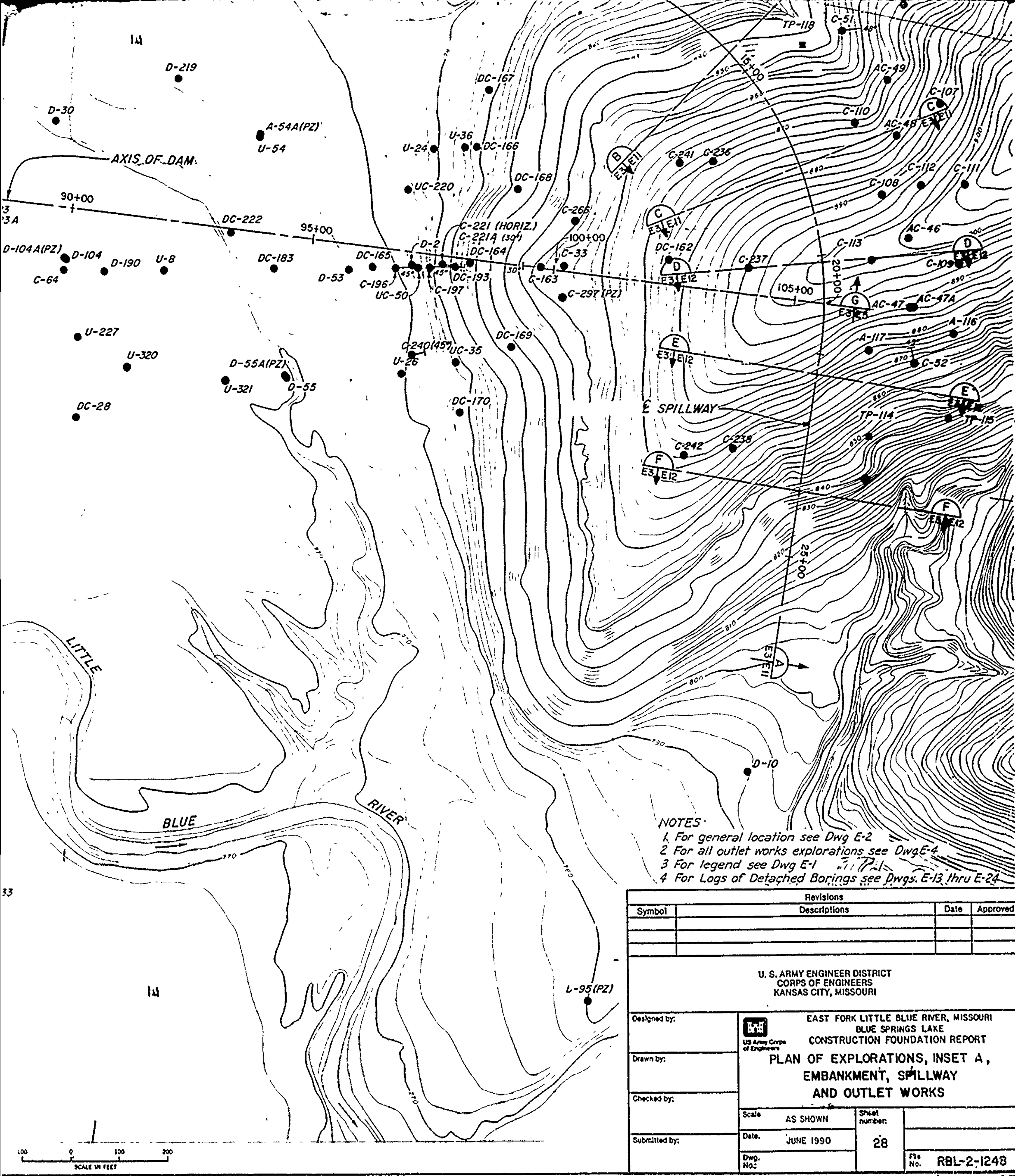
US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

PLAN OF EXPLORATIONS, INSET A,
EMBANKMENT, SPILLWAY
AND OUTLET WORKS

Scale: AS SHOWN
Sheet


AD-158 (PZ)
UC-216
U-218
D-211
C-211A
C-105
DC-212
AD-141
A-139
C-194
EXISTING CHANNEL-BLOCKS
D-30
U-56
D-31
DC-213
AC-157
80+00
C-225
U-225A
D-59A(PZ)
AXIS OF
A-135
AD-140
U-316
85+00
D-224
C-224A
50+00
D-207
D-59
D-209
90+00
C-223
U-223A
75+00
A-34
AC-156
D-104A(PZ)
D-104
C-186
DC-184
C-189
C-149
UC-61
C-32
D-190
DC-185
U-65
D-27
C-64
D-9
D-60
ABANDONED RIVER CHANNEL
D-226
DC-214
℄ OUTLET WORKS
EXISTING DIVERSION CHANNEL
D-204
D-208
U-227
D-239
D-206
C-206A
U-320
A-122
A-123
D-143(PZ)
A-121
D-58
UC-29
DC-28
AC-41
D-229
D-59A (PZ)
D-57
55+00
EAST
AC-192
D-230
D-191
D-3
D-231
A-159
60+00
D-232
FORK
LITTLE
65+00
PERMANENT SEWERLINE
TEMPORARY 24" SEWERLINE
INSET B
D-233
SCALE IN FEET



NOTES

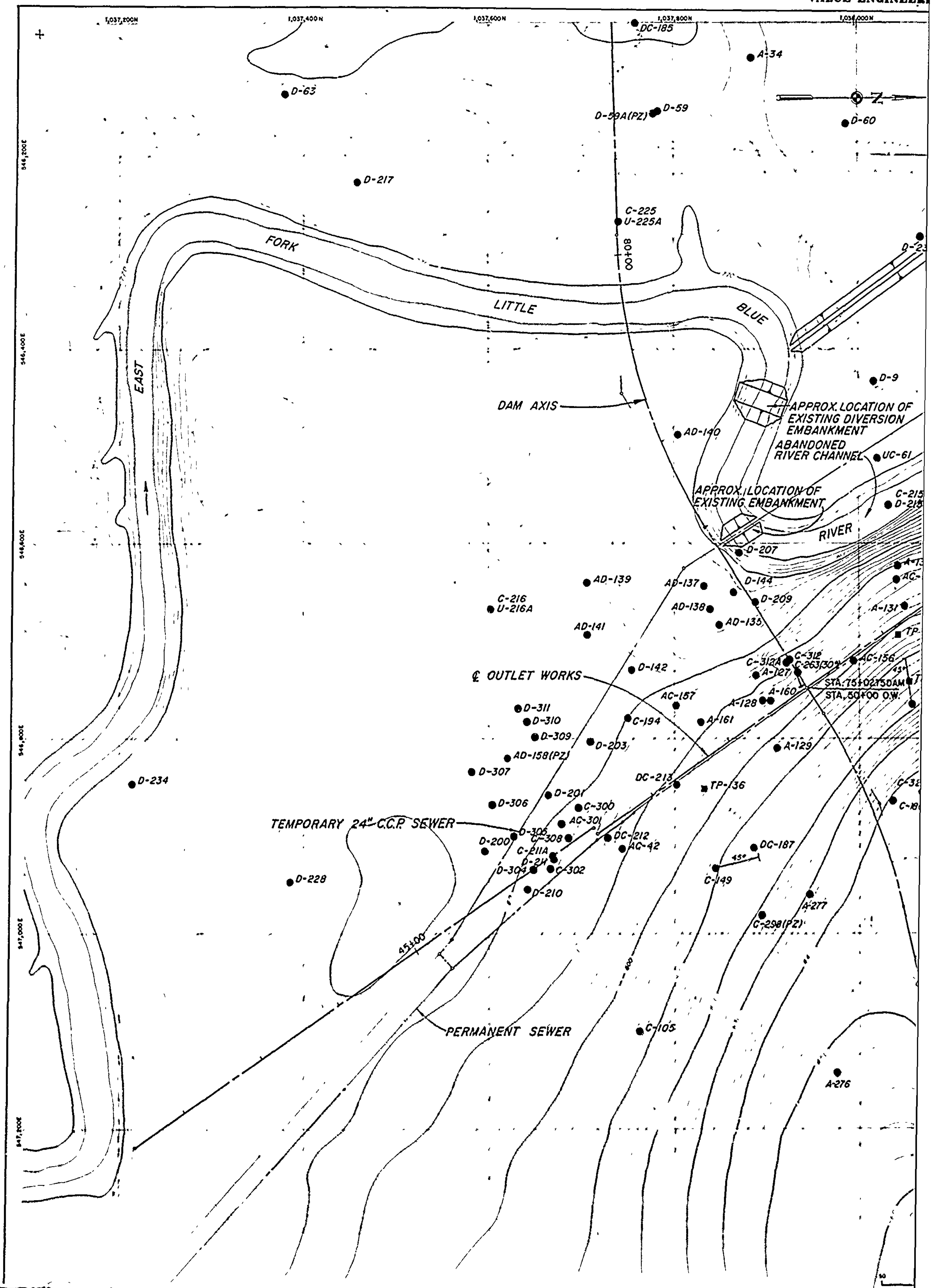
1. For general location see Dwg E-2
2. For all outlet works explorations see Dwg E-4
3. For legend see Dwg E-1
4. For Logs of Detached Borings see Dwgs. E-13 thru E-24

Revisions			
Symbol	Descriptions	Date	Approved

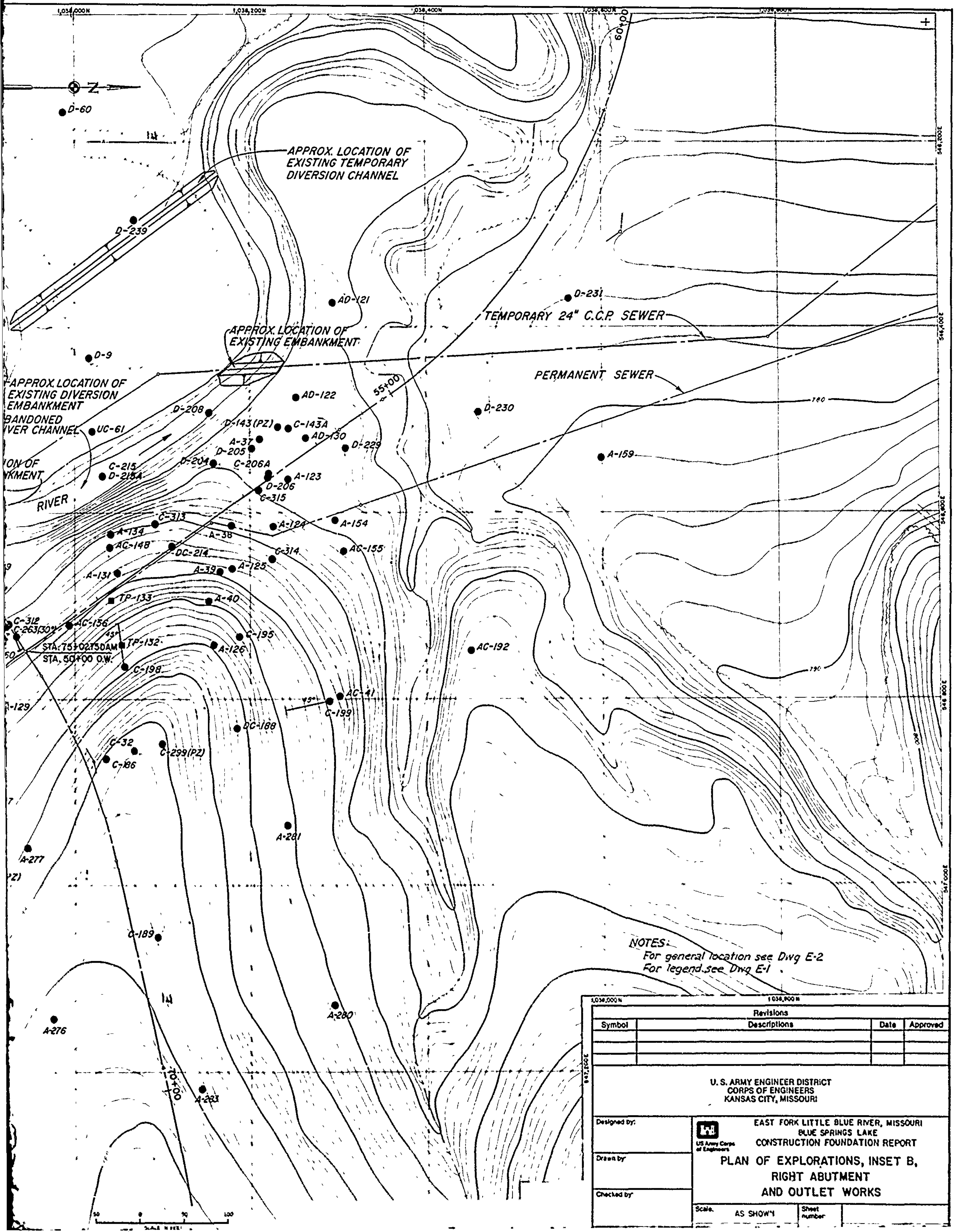
U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:	US Army Corps of Engineers — EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by:	PLAN OF EXPLORATIONS, INSET A, EMBANKMENT, SPILLWAY AND OUTLET WORKS
Checked by:	
	Scale: AS SHOWN — Sheet number: 28
Submitted by:	Date: JUNE 1990 — Dwg. No.: — File No. RBL-2-1248

PLATE NO. 28



EAST
FORK
LITTLE
BLUE
RIVER
DAM AXIS
APPROX. LOCATION OF EXISTING DIVERSION EMBANKMENT
ABANDONED RIVER CHANNEL
APPROX. LOCATION OF EXISTING EMBANKMENT
℄ OUTLET WORKS
TEMPORARY 24" C.C.P. SEWER
PERMANENT SEWER
STA. 75+02.50AM
STA. 50+00 O.W.
80+00
45+00
D-63
D-217
D-59A(PZ)
D-59
D-60
A-34
DC-185
C-225
U-225A
D-9
AD-140
UC-61
D-207
AD-139
AD-137
D-144
D-209
C-216
U-216A
AD-138
AD-135
AD-141
D-142
C-312A
C-312
C-263(30°)
A-127
AC-156
A-160
A-128
AC-157
D-311
D-310
D-309
C-194
A-161
D-203
AD-158(PZ)
A-129
D-307
D-234
DC-213
TP-136
D-201
D-306
C-300
AC-301
D-305
C-308
DC-212
AC-42
DC-187
D-200
C-211A
D-211
D-304
C-302
C-149
D-228
D-210
A-277
C-298(PZ)
C-105
A-276



Symbol	Descriptions	Date	Approved

Revisions

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

PLAN OF EXPLORATIONS, INSET B,
RIGHT ABUTMENT
AND OUTLET WORKS

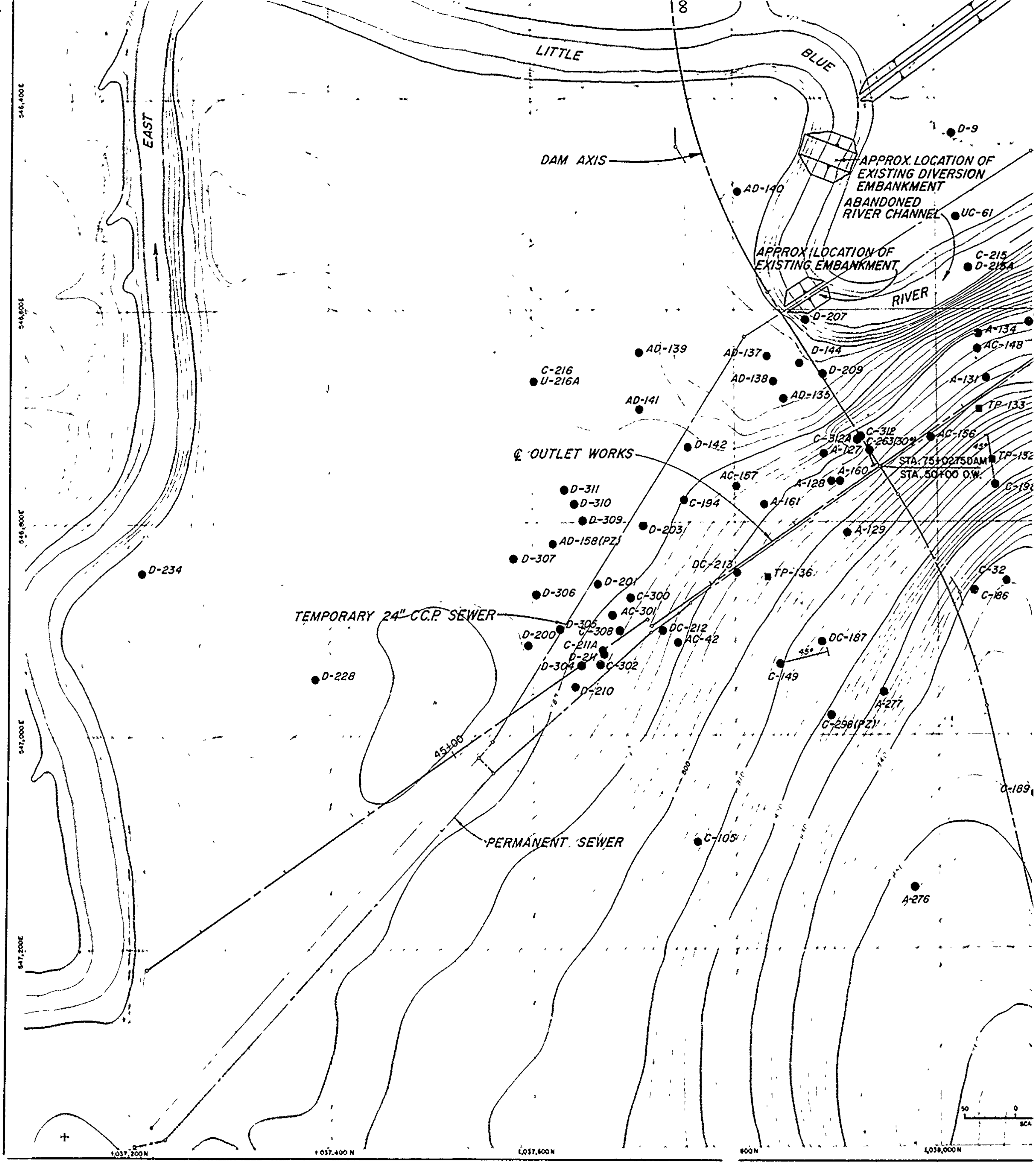
Designed by:

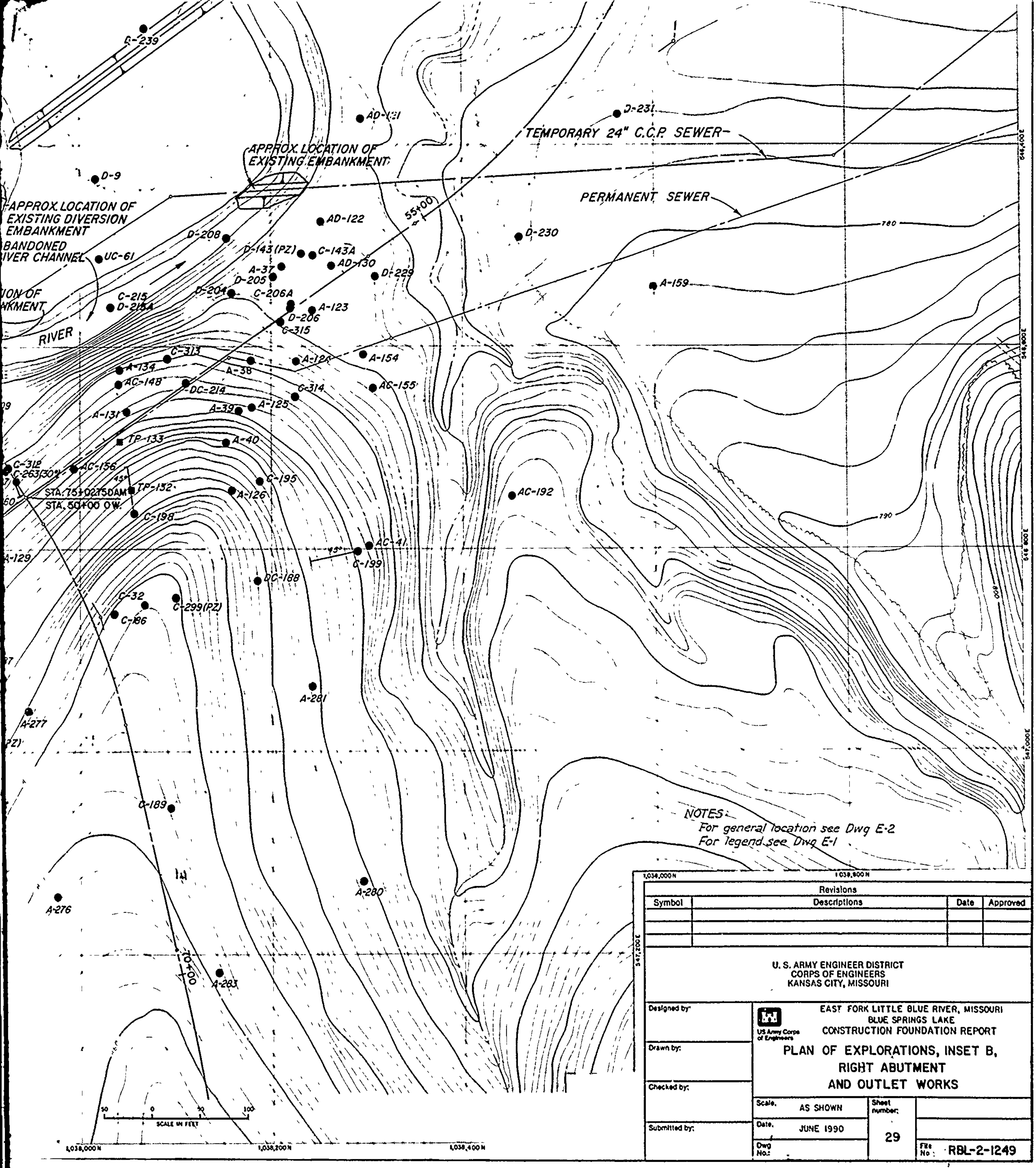
Drawn by:

Checked by:

Scale: AS SHOWN

Sheet number:


8
LITTLE
BLUE
RIVER
EAST
DAM AXIS
APPROX. LOCATION OF EXISTING DIVERSION EMBANKMENT
ABANDONED RIVER CHANNEL
APPROX. LOCATION OF EXISTING EMBANKMENT
℄ OUTLET WORKS
STA. 75+02.75 DAM
STA. 50+00 O.W.
TEMPORARY 24" C.C.P. SEWER
PERMANENT SEWER
45+00
D-9
AD-140
UC-61
C-215
D-215A
D-207
A-134
AC-148
AD-139
AD-137
D-144
D-209
C-216
U-216A
AD-138
AD-135
A-131
AD-141
TP-133
C-312
C-312A
C-263(30°)
AC-156
TP-132
A-127
D-142
AC-157
A-160
A-128
C-198
D-311
D-310
C-194
A-161
D-309
D-203
A-129
AD-158(PZ)
D-307
DC-213
TP-136
D-234
C-32
D-201
C-186
D-306
C-300
AC-301
D-305
C-308
DC-212
D-200
AC-42
DC-187
C-211A
D-211
45°
D-304
C-302
C-149
D-228
D-210
A-277
C-298(PZ)
C-189
C-105
A-276
1,037,200 N
1,037,400 N
1,037,600 N
800 N
1,038,000 N
546,400 E
546,600 E
546,800 E
547,000 E
547,200 E



Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

US Army Corps of Engineers

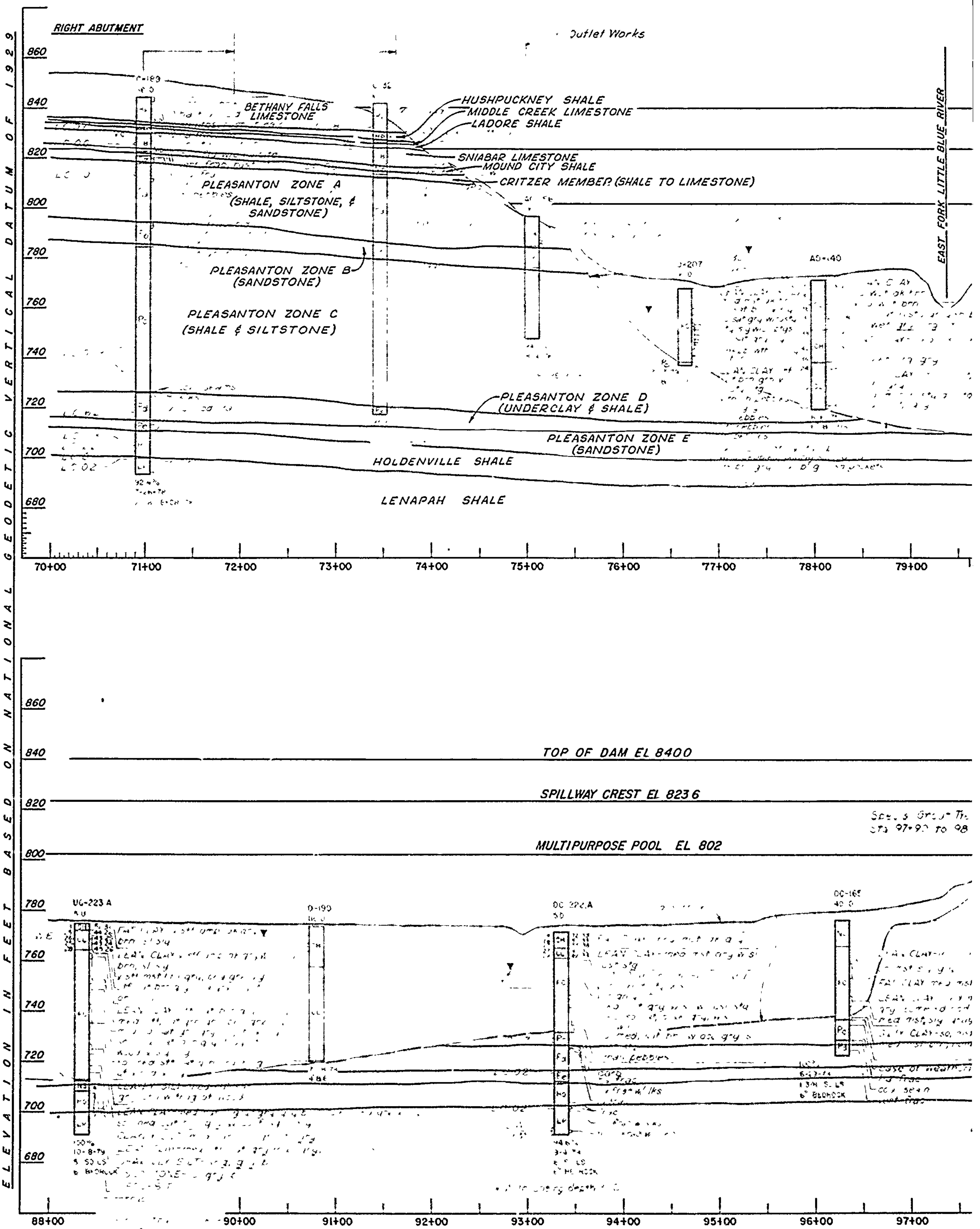
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

PLAN OF EXPLORATIONS, INSET B, RIGHT ABUTMENT AND OUTLET WORKS

Designed by:
Drawn by:
Checked by:
Submitted by:

Scale: AS SHOWN
Date: JUNE 1990
Dwg No.:
Sheet number: 29
File No.: RBL-2-1249

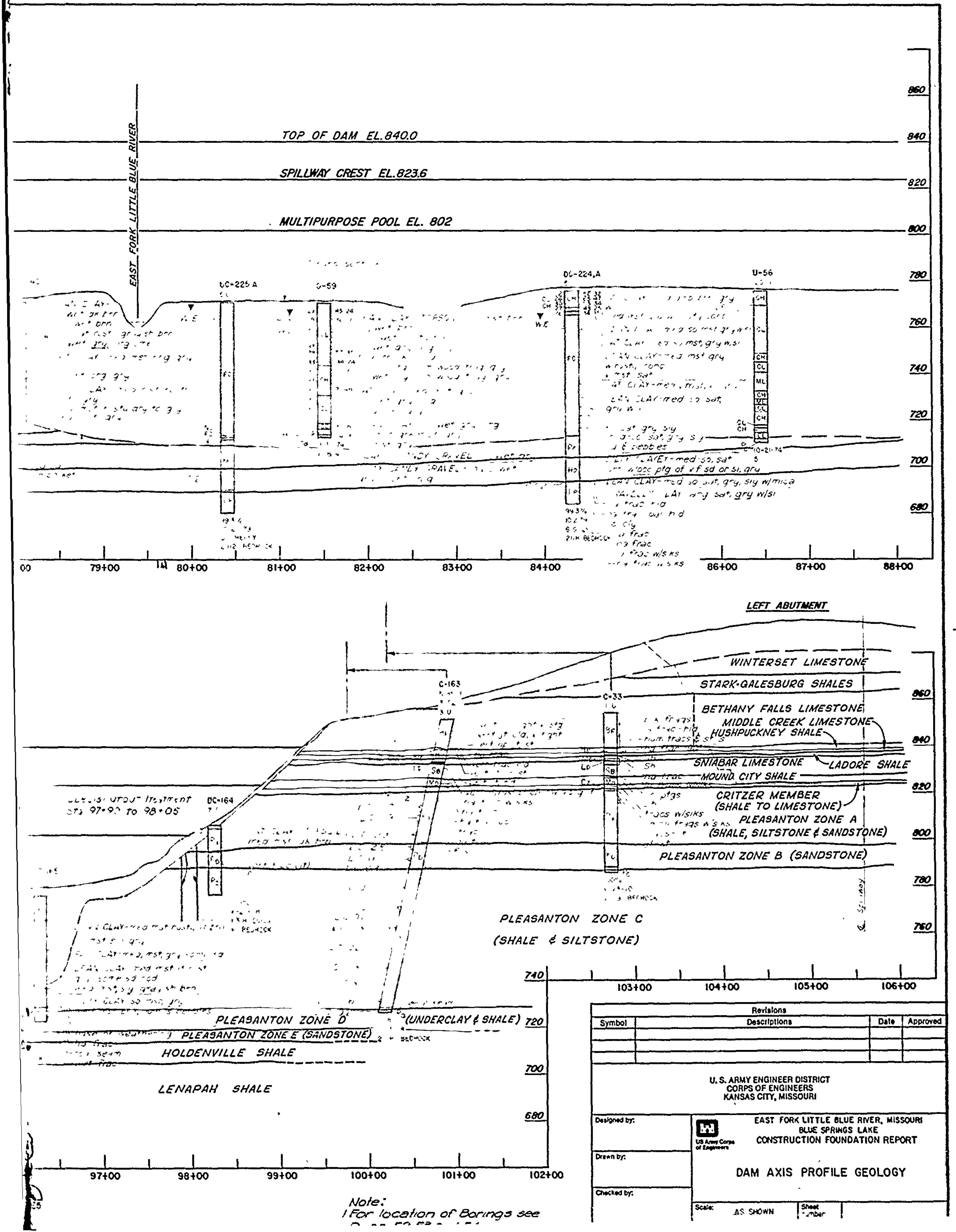
PLATE NO. 29

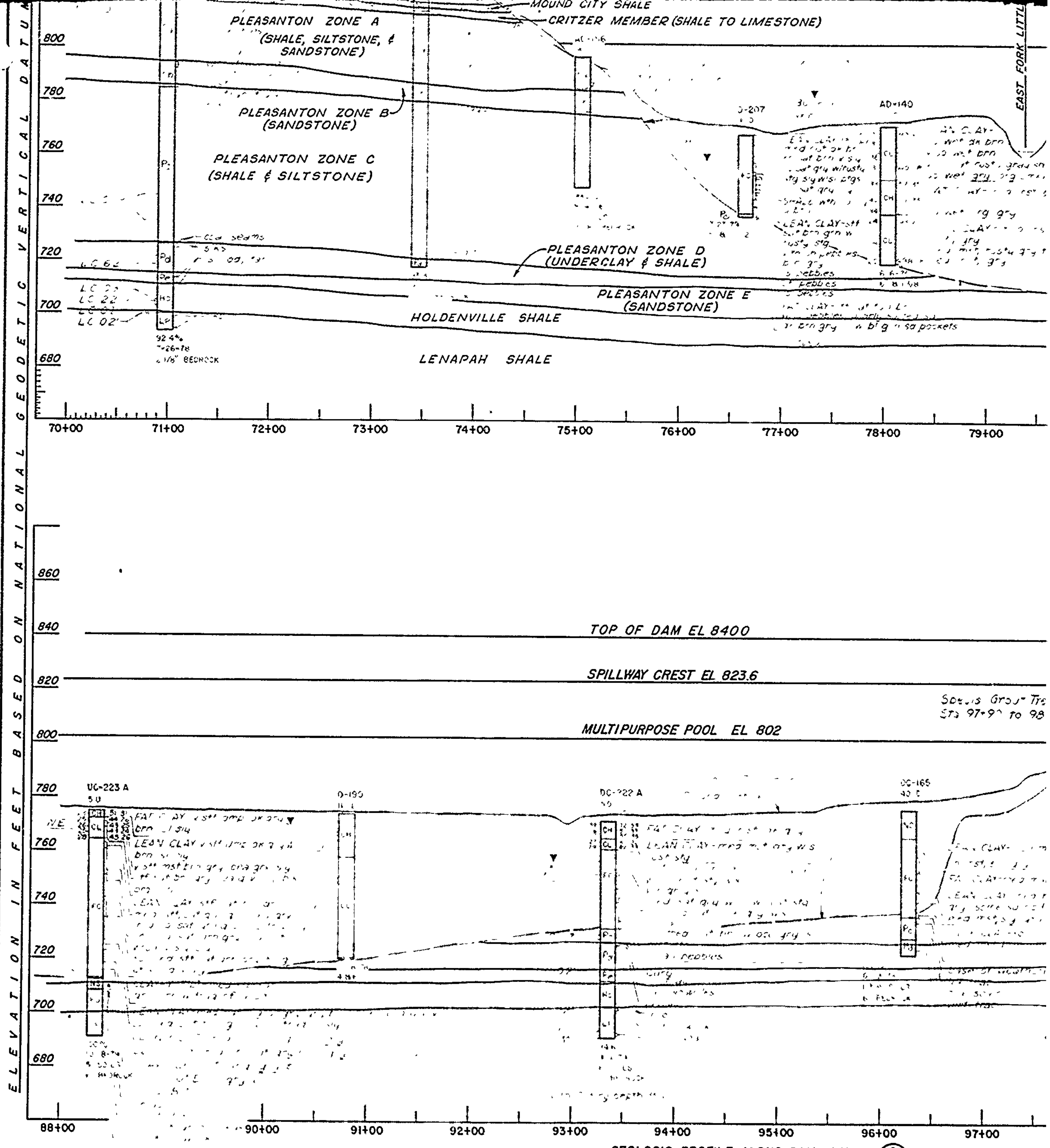


GEOLOGIC PROFILE ALONG DAM AXIS (LOOKING UPSTREAM)

G
E3 | E5

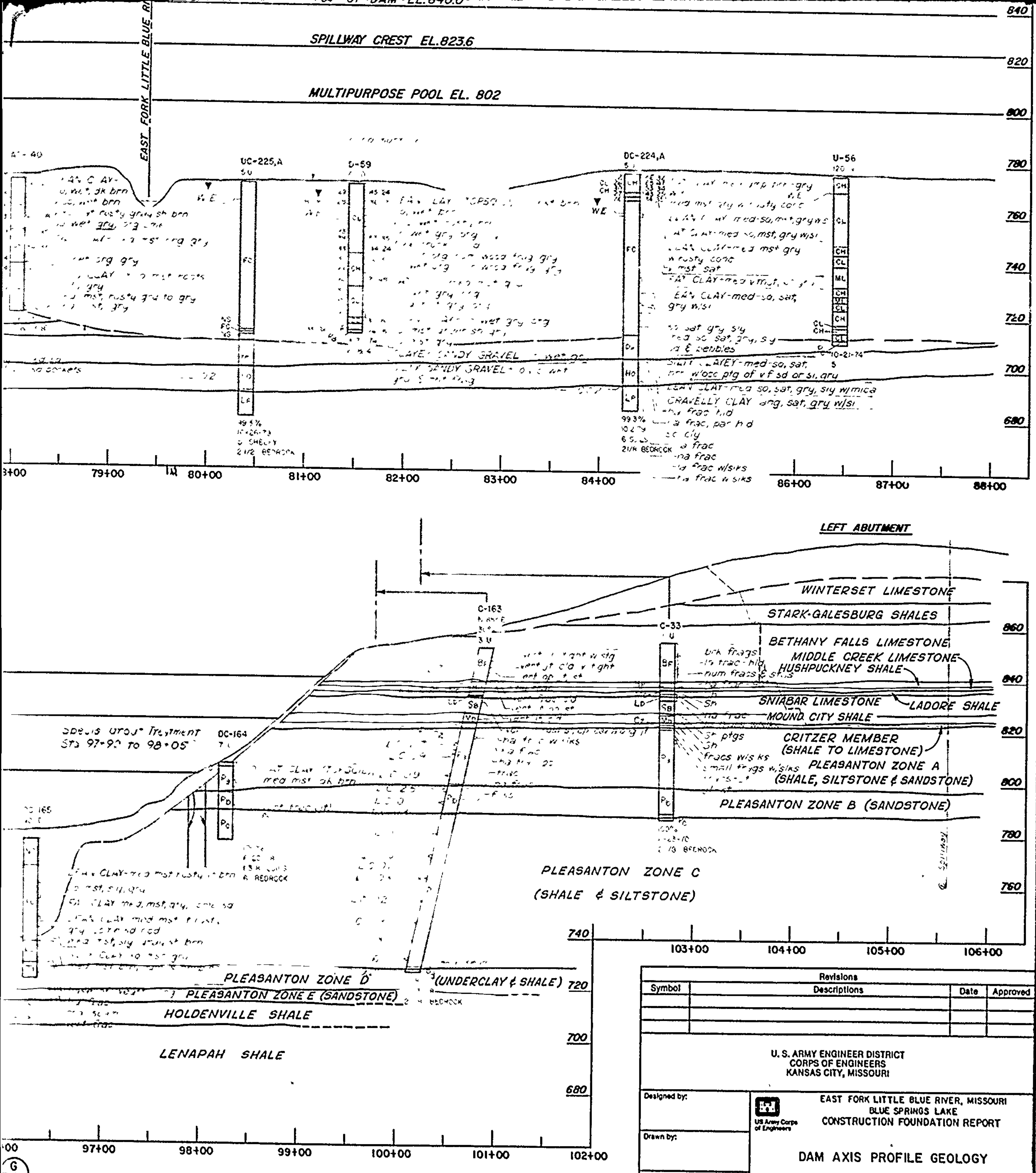
VALUE ENGINEERING PAYS





GEOLOGIC PROFILE ALONG DAM AXIS
(LOOKING UPSTREAM)

G
E3|E5



Note:
1. For location of Borings see Dwgs. E2, E3 and E4.
2. For General Geologic Column and Legend see Dwg. E1.

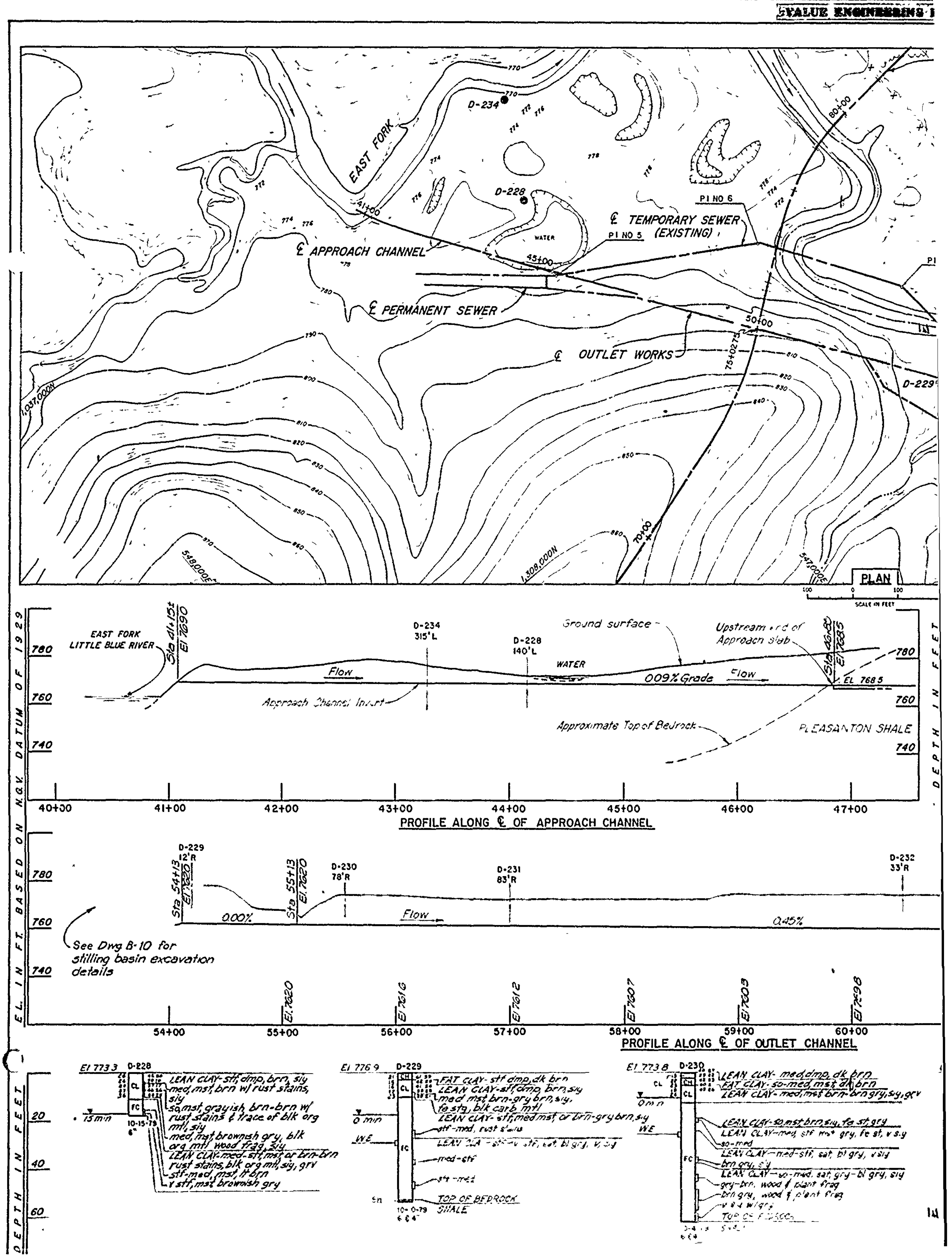
Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

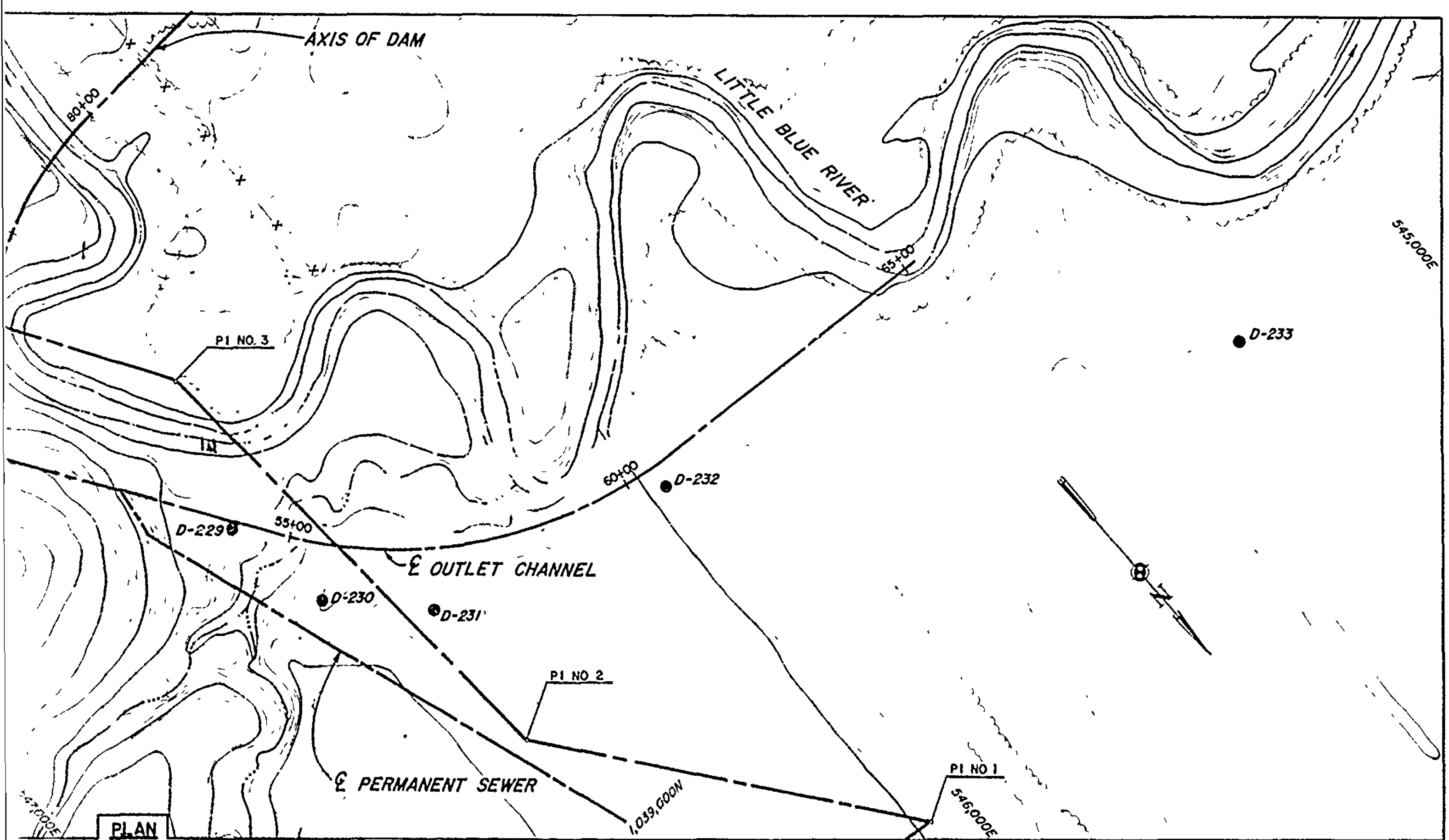
Designed by:	US Army Corps of Engineers — EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by:	DAM AXIS PROFILE GEOLOGY
Checked by:	Scale: AS SHOWN — Sheet number: 30
Submitted by:	Date: JUNE 1990 — Dwg. No.: — File No. RBL-2-1250

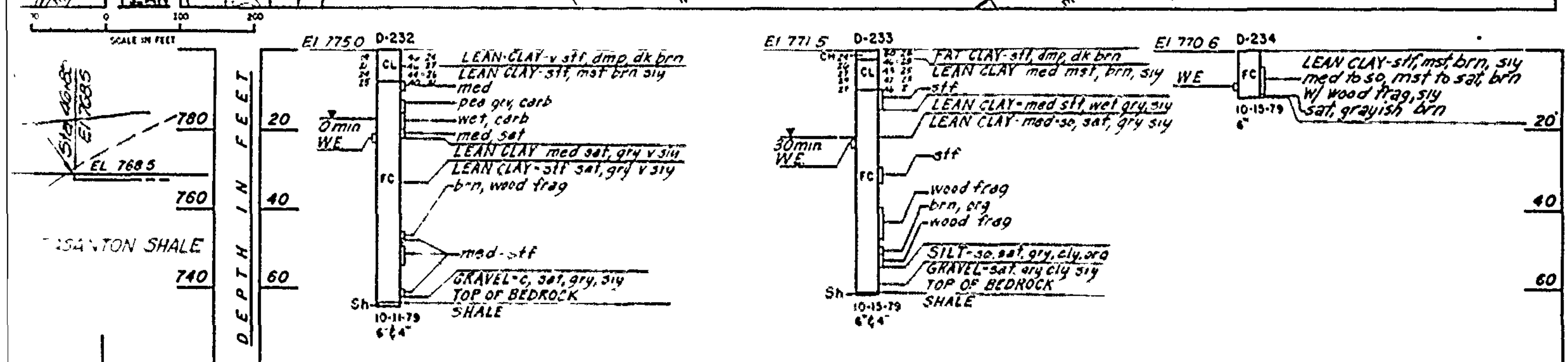
PLATE NO. 30

VALUE ENGINEERING

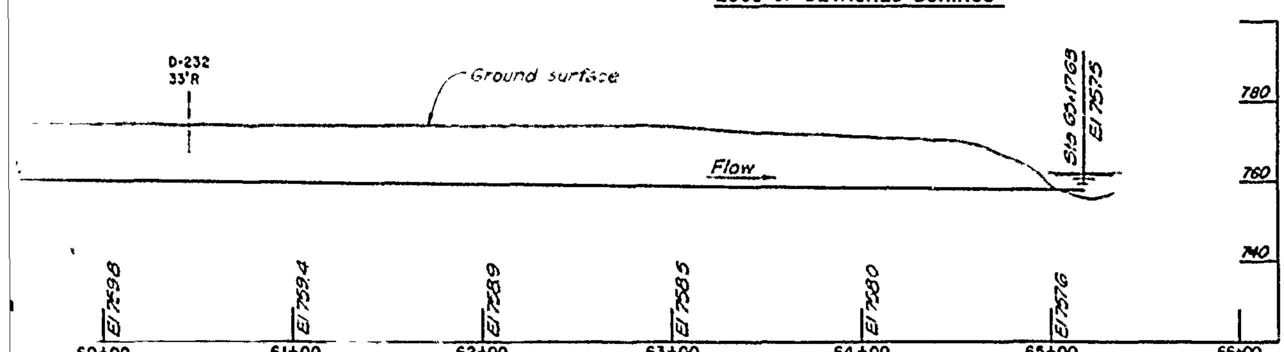


VALUE ENGINEERING PAYS



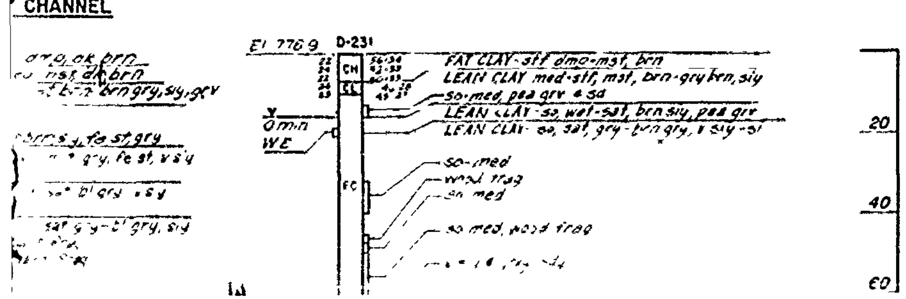


LOGS OF DETACHED BORINGS



NOTE:
1. For General Geologic Column and Legend see Dwg El.

CHANNEL



Symbol	Descriptions	Date	Approved

Revisions

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

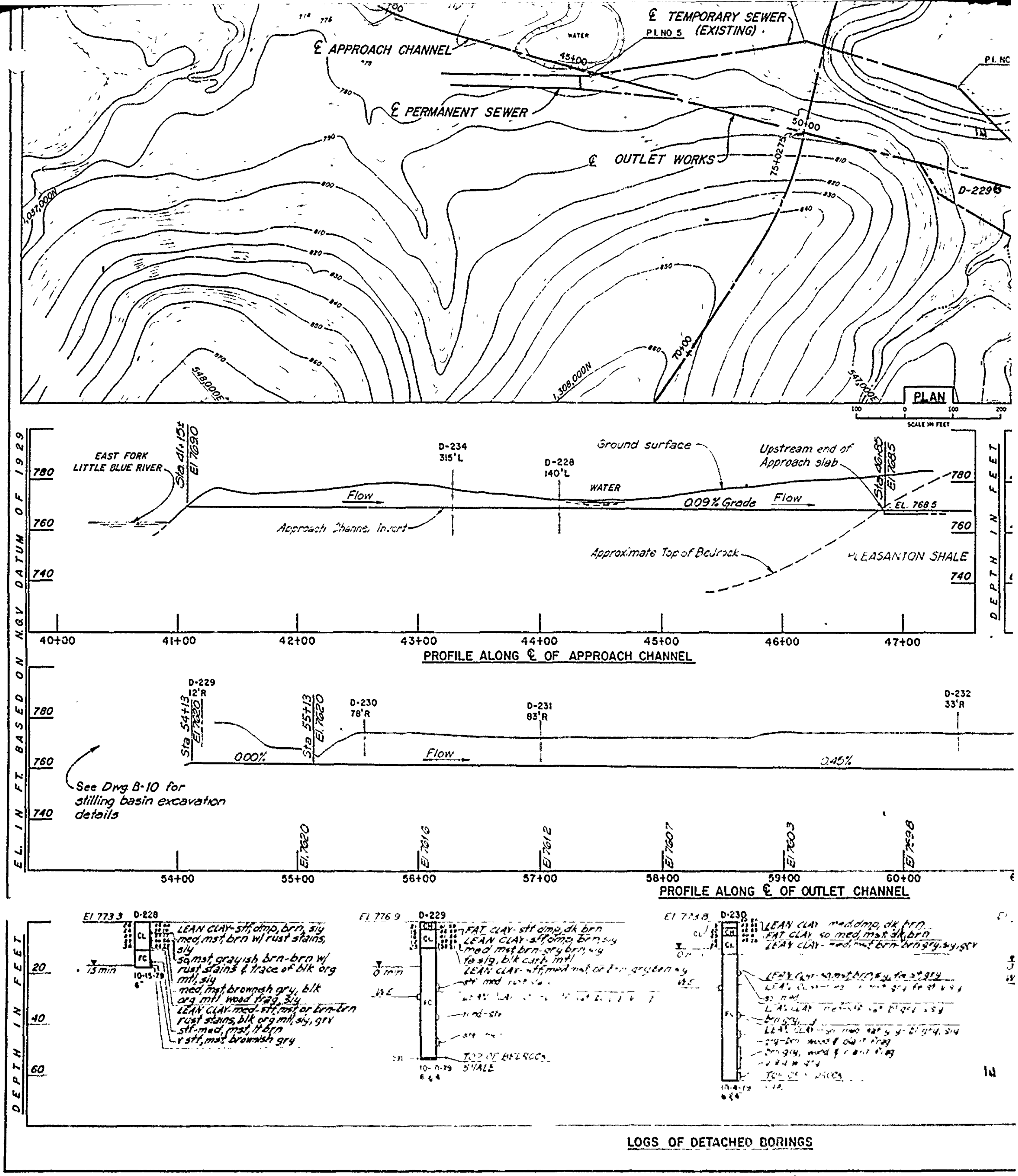
Designed by

Drawn by

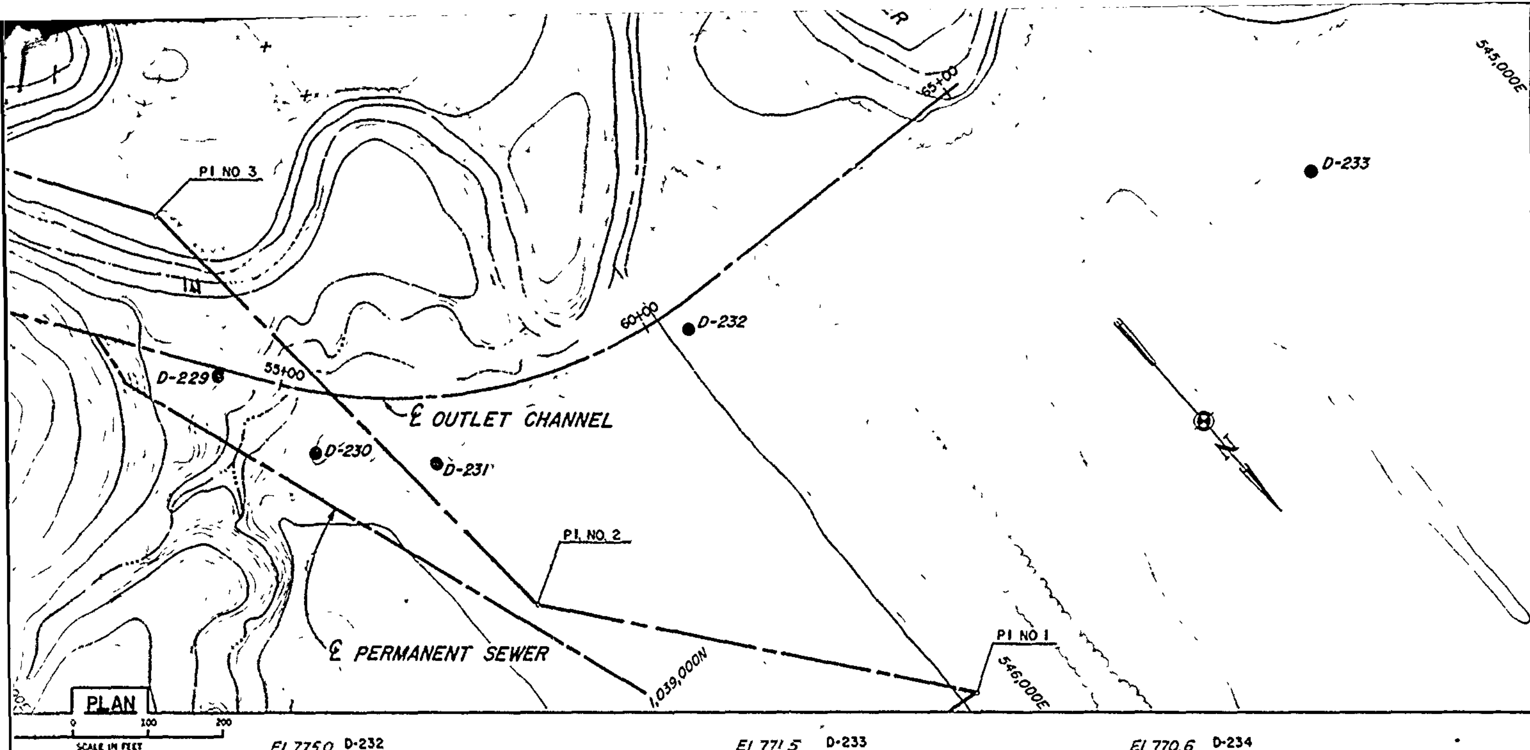
US Army Corps of Engineers

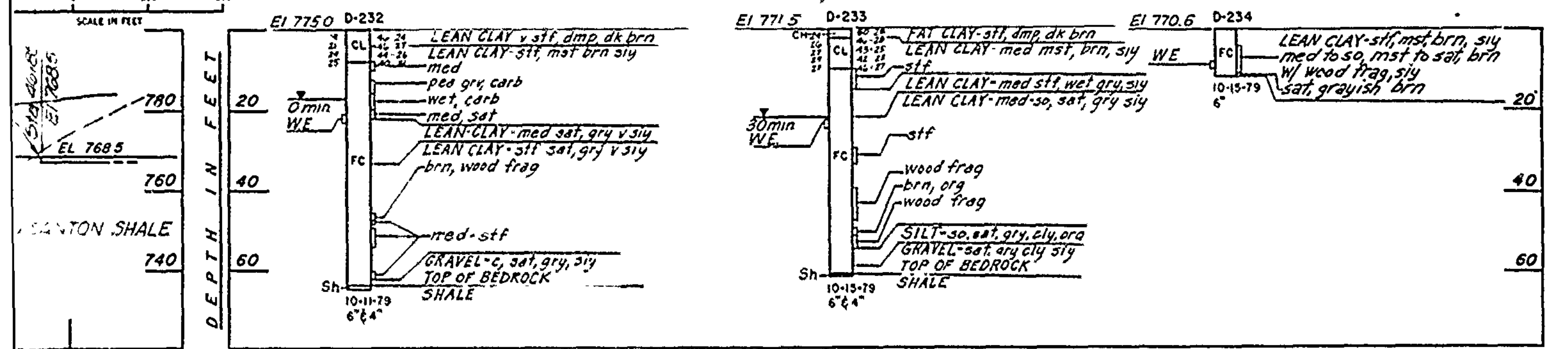
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

APPROACH AND OUTLET CHANNELS

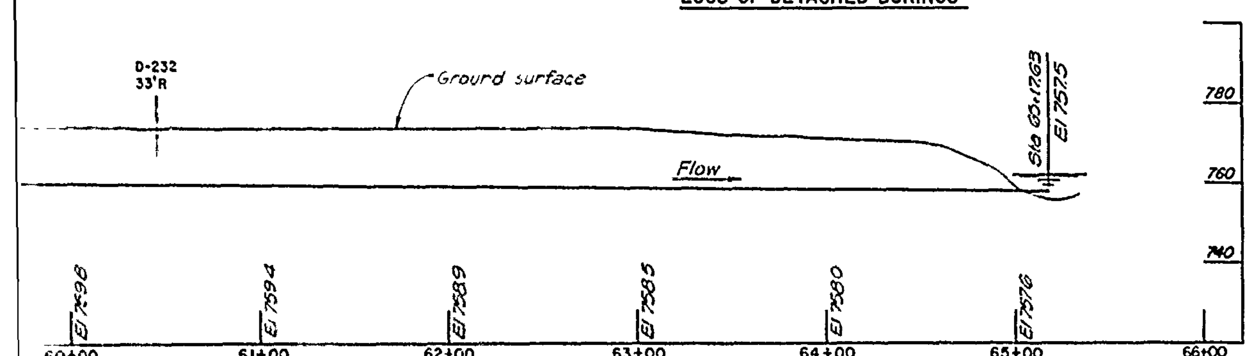


℄ TEMPORARY SEWER (EXISTING)
P.I. NO 5
℄ APPROACH CHANNEL
WATER
45+00
℄ PERMANENT SEWER
50+00
℄ OUTLET WORKS
75+02.75
D-229
1,037,000N
548,000E
1,308,000N
547,000E
70+00
PLAN
SCALE IN FEET
EAST FORK LITTLE BLUE RIVER
Sta 41+15± El 769.0
D-234 315'L
D-228 140'L
Ground surface
Upstream end of Approach slab
Sta 46+85 El 768.5
Flow
WATER
0.09% Grade
EL. 768.5
Approach Channel Invert
Approximate Top of Bedrock
PLEASANTON SHALE
780
760
740
40+00
41+00
42+00
43+00
44+00
45+00
46+00
47+00
PROFILE ALONG ℄ OF APPROACH CHANNEL
EL. IN FT. BASED ON N.G.V. DATUM OF 1929
DEPTH IN FEET
D-229 12'R
Sta 54+13 El 762.0
Sta 55+13 El 762.0
D-230 78'R
D-231 83'R
D-232 33'R
0.00%
Flow
0.45%
See Dwg B-10 for stilling basin excavation details
El 762.0
El 761.6
El 761.2
El 760.7
El 760.3
El 759.8
54+00
55+00
56+00
57+00
58+00
59+00
60+00
PROFILE ALONG ℄ OF OUTLET CHANNEL
El 773.3
D-228
LEAN CLAY-stf, dmp, brn, sly
med, mst, brn w/ rust stains, sly
so, mst, grayish brn-brn w/ rust stains & trace of blk org mtl, sly
med, mst, brownish gry, blk org mtl, wood frag, sly
LEAN CLAY-med-stf, mst or brn-brn rust stains, blk org mtl, sly, gry
stf-med, mst, lt brn
v stf, mst, brownish gry
10-15-79
El 776.9
D-229
FAT CLAY-stf, dmp, dk brn
LEAN CLAY-stf, dmp, brn, sly
med, mst, brn-gry brn, sly
TOP OF BEDROCK SHALE
El 774.8
D-230
LEAN CLAY-med, dmp, dk brn
FAT CLAY-so, med, mst, dk brn
DEPTH IN FEET
20
40
60
LOGS OF DETACHED BORINGS



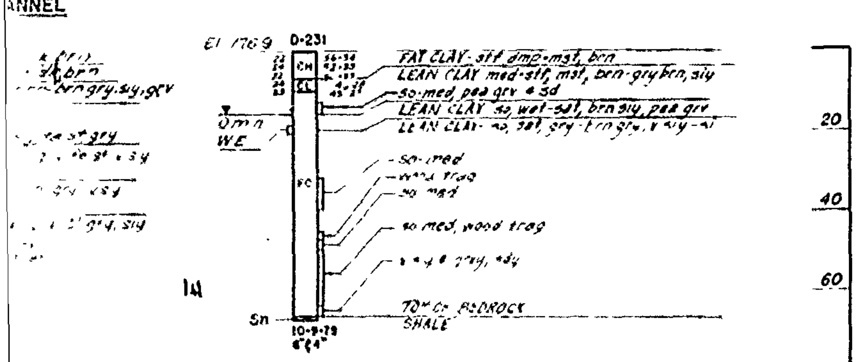


LOGS OF DETACHED BORINGS



NOTE:
1. For General Geologic Column and Legend see Dwg El.

ANNEL

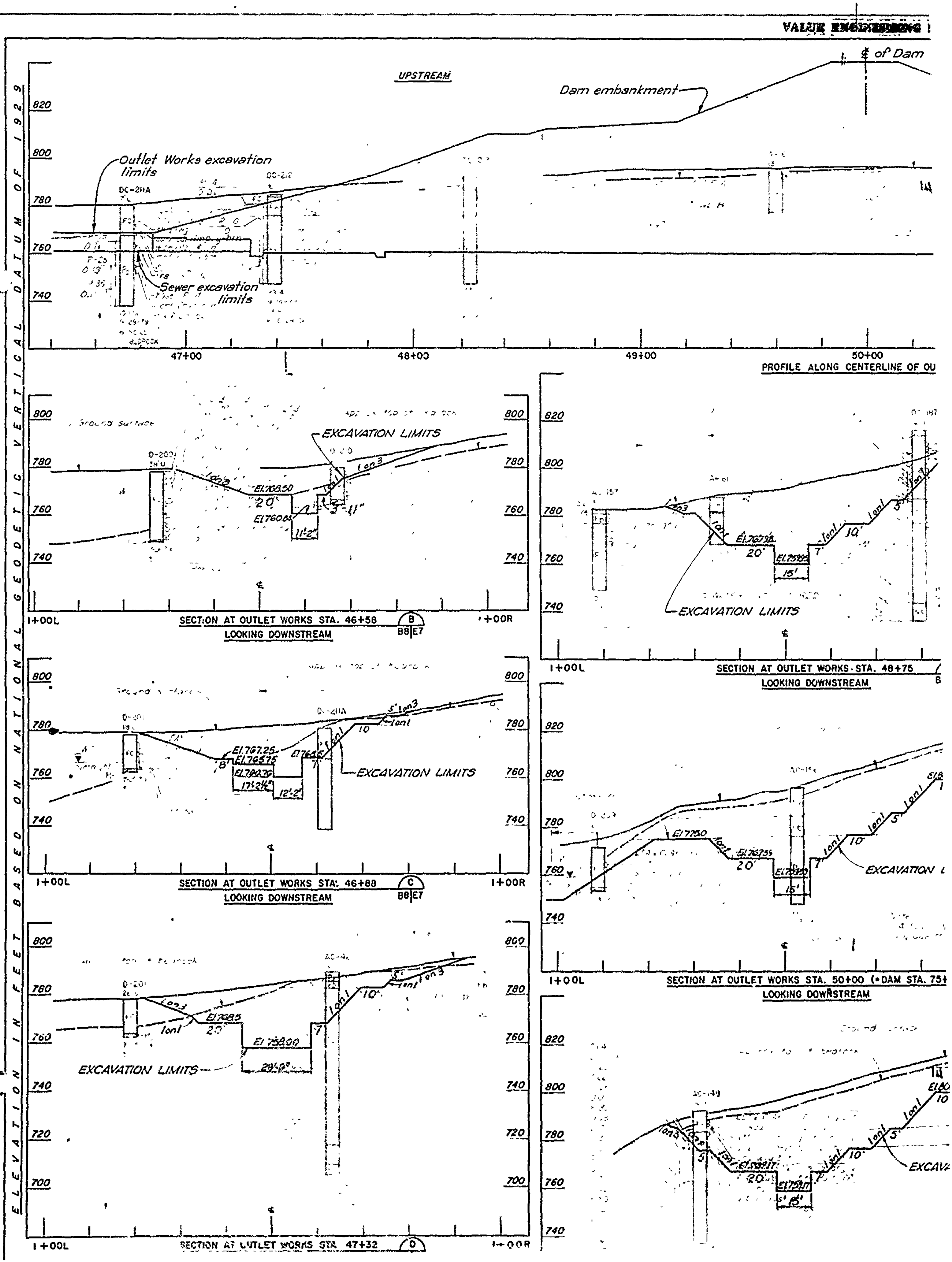


Revisions			
Symbol	Descriptions	Date	Approved

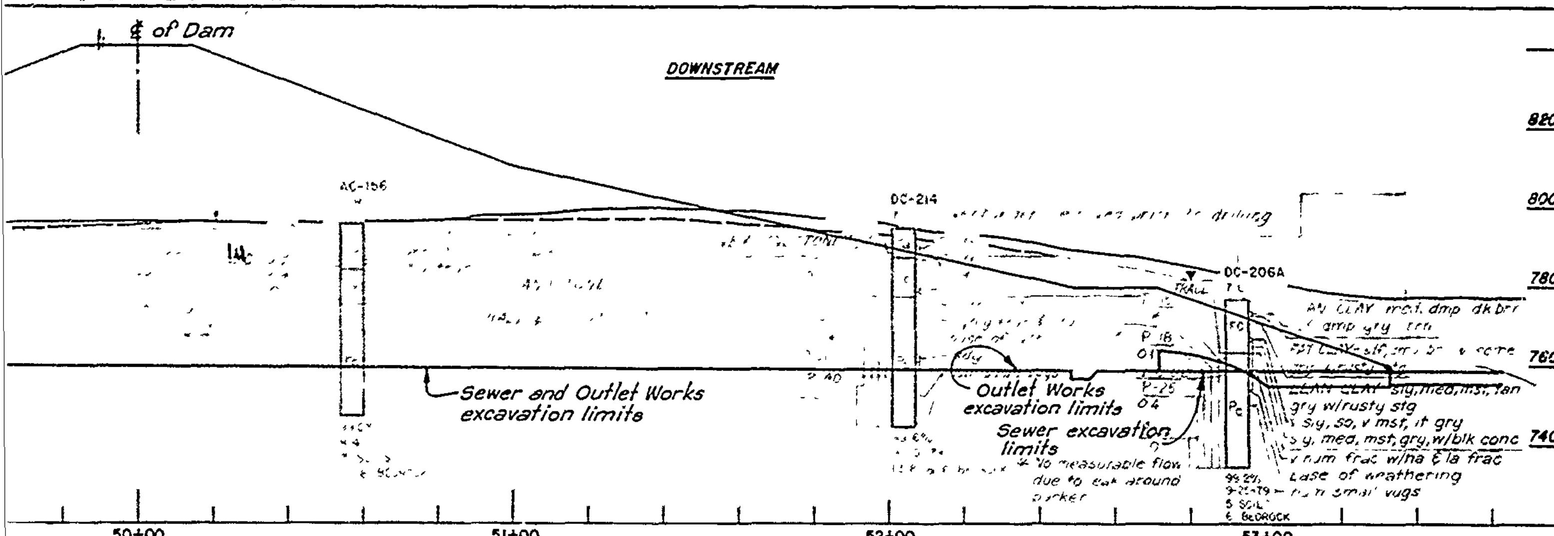
U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by:	APPROACH AND OUTLET CHANNELS PLAN AND PROFILES AND LOGS OF DETAILED BORINGS
Checked by:	Scale: AS SHOWN — Sheet number: 31
Submitted by:	Date: JUNE 1990 — Dwg. No.: — File No.: RBL-2-1251

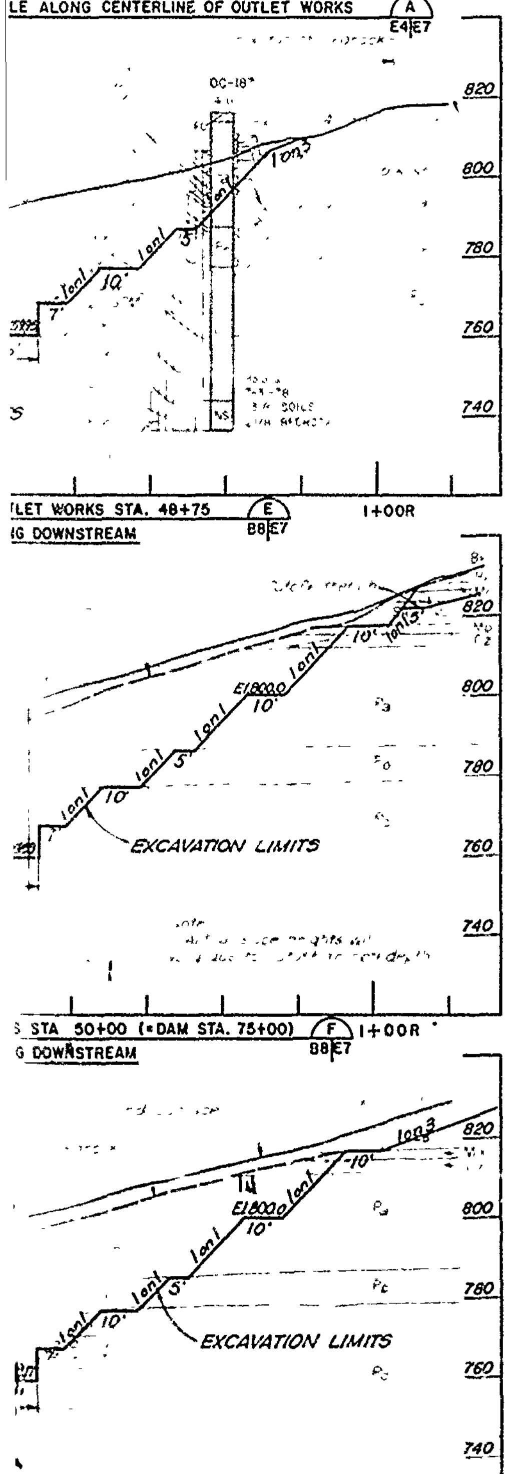
PLATE NO. 31


VALUE ENGINEERING
℄ of Dam
UPSTREAM
Dam embankment
Outlet Works excavation limits
Sewer excavation limits
ELEVATION IN FEET BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929
47+00
48+00
49+00
50+00
PROFILE ALONG CENTERLINE OF OU
EXCAVATION LIMITS
El.768.50
El.760.8
SECTION AT OUTLET WORKS STA. 46+58
LOOKING DOWNSTREAM
B8 E7
SECTION AT OUTLET WORKS STA. 48+75
LOOKING DOWNSTREAM
El.767.25
El.765.75
SECTION AT OUTLET WORKS STA. 46+88
LOOKING DOWNSTREAM
El.775.0
SECTION AT OUTLET WORKS STA. 50+00 (•DAM STA. 75+
LOOKING DOWNSTREAM
EXCAVATION LIMITS
El.758.00
SECTION AT OUTLET WORKS STA. 47+32
1+00L
1+00R

VALUE ENGINEERING PAYS

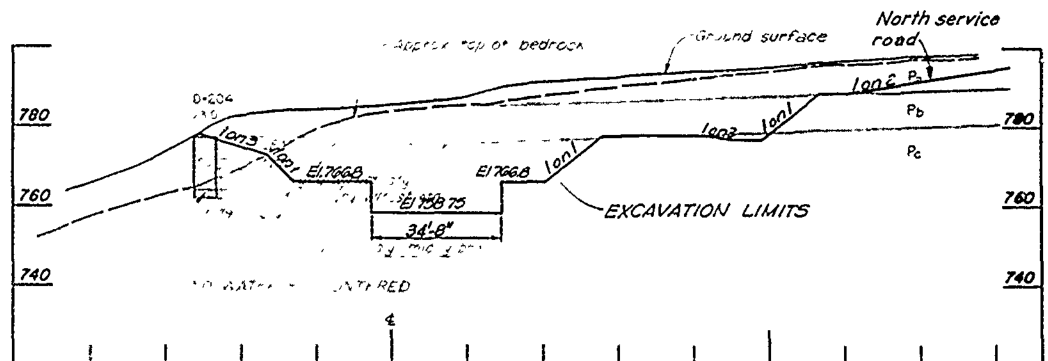


LE ALONG CENTERLINE OF OUTLET WORKS (A) E4|E7

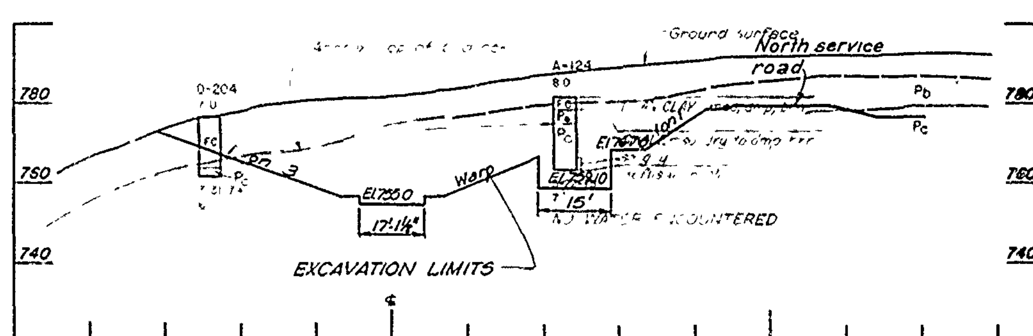


TLET WORKS STA. 48+75 (E) B8|E7
G DOWNSTREAM

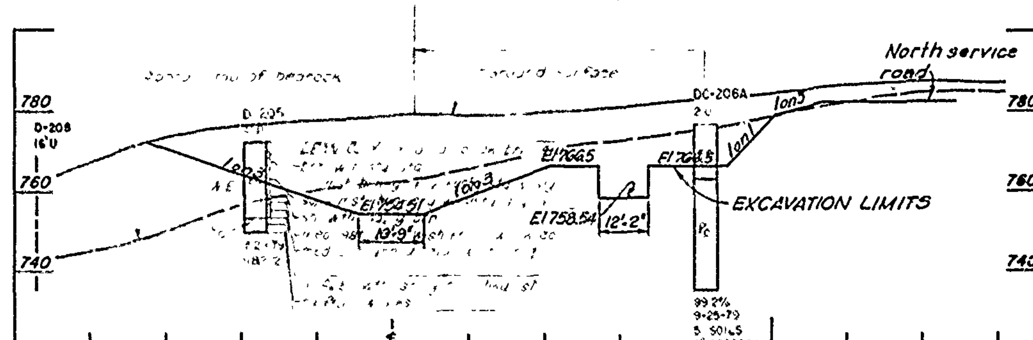
S STA 50+00 (=DAM STA. 75+00) (F) B8|E7
G DOWNSTREAM



SECTION AT OUTLET WORKS STA. 52+71 (H) B8|E7
LOOKING DOWNSTREAM



SECTION AT OUTLET WORKS STA. 53+01 (I) B8|E7
LOOKING DOWNSTREAM



SECTION AT OUTLET WORKS STA. 53+33 (J) B8|E7
LOOKING DOWNSTREAM

NOTES:
1. For location of Profile, Sections and Borings, see Dwg. No. E4
2. For General Geologic Column and Legend see Dwg. No. E1.
3. For Logs of Detached Borings see Dwgs. E13 thru E18.

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

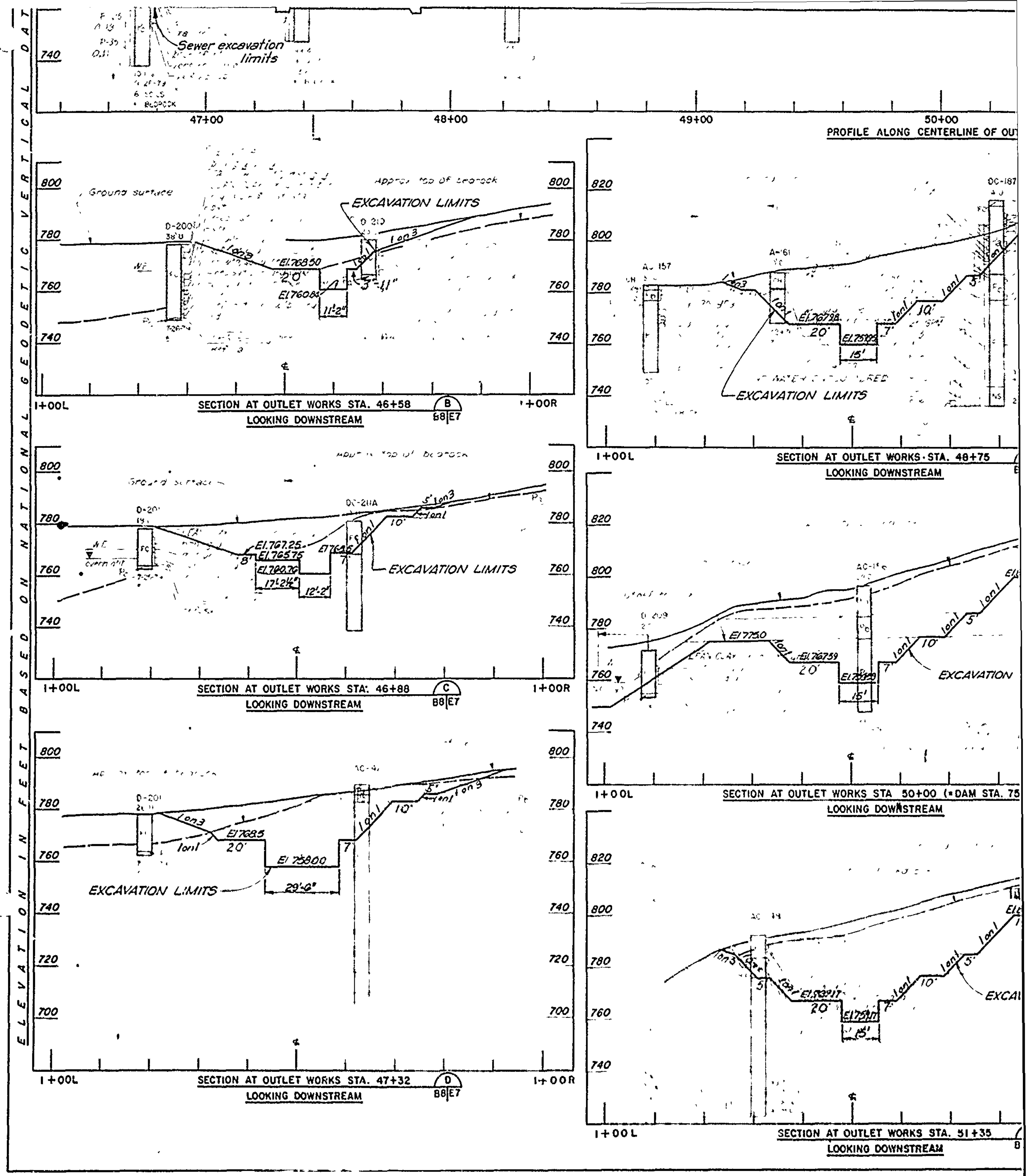
Designed by:

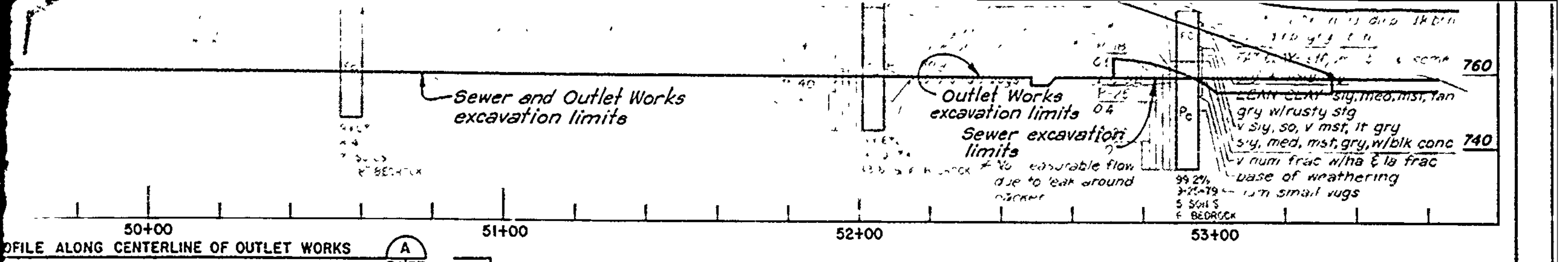
Drawn by:

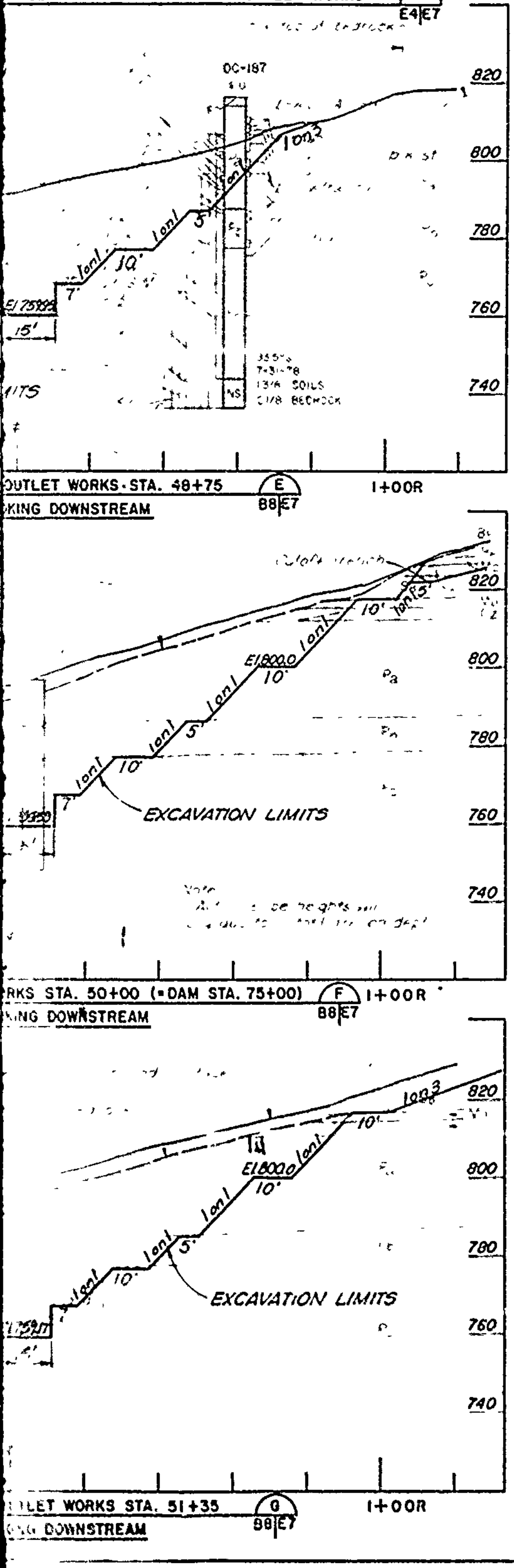
US Army Corps of Engineers

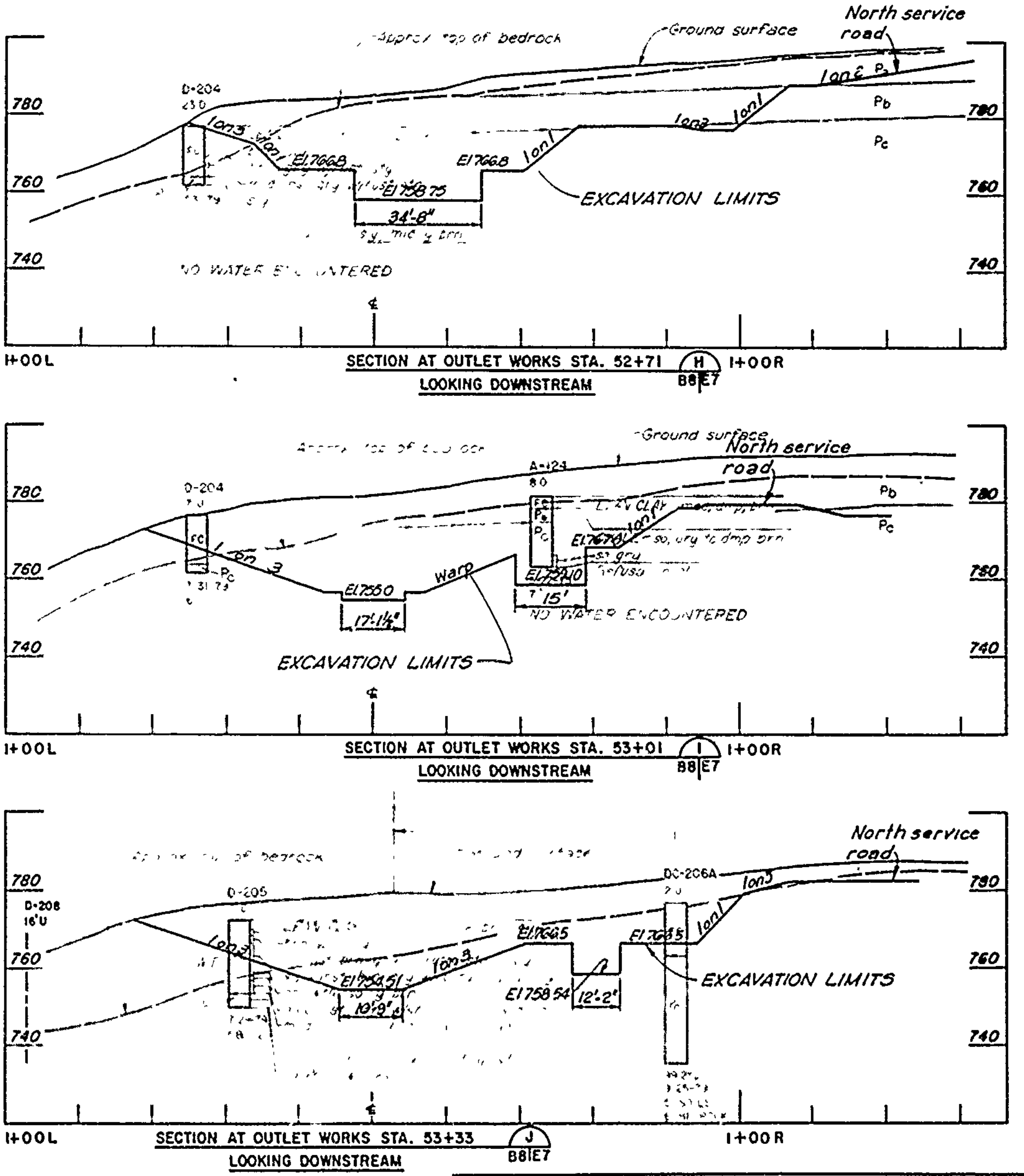
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

OUTLET WORKS GEOLOGIC PROFILES AND SECTIONS AND EXCAVATION LIMITS


ELEVATION IN FEET BASED ON NATIONAL GEODETIC VERTICAL DAT
Sewer excavation limits
47+00
48+00
49+00
50+00
PROFILE ALONG CENTERLINE OF OU
Ground surface
Approx top of bedrock
EXCAVATION LIMITS
D-200
D-210
1 on 3
1 on 1
El.768.50
20'
El.760.85
11'-2"
5'-11"
SECTION AT OUTLET WORKS STA. 46+58
LOOKING DOWNSTREAM
B
B8 E7
1+00L
1+00R
AC-157
A-161
DC-187
1on3
El.767.98
20'
El.759.95
15'
10'
3'
7'
EXCAVATION LIMITS
SECTION AT OUTLET WORKS STA. 48+75
LOOKING DOWNSTREAM
D-201
DC-211A
Ground surface
El.767.25
El.765.75
El.760.70
17'-2¼"
12'-2"
El.764.56
8'
7'
10'
5'
EXCAVATION LIMITS
SECTION AT OUTLET WORKS STA. 46+88
LOOKING DOWNSTREAM
C
B8 E7
D-209
El.77.50
El.767.59
20'
El.759.59
15'
7'
10'
5'
EXCAVATION
SECTION AT OUTLET WORKS STA 50+00 (=DAM STA. 75
LOOKING DOWNSTREAM
D-201
El.768.5
20'
El.758.00
29'-0"
7'
10'
5'
EXCAVATION LIMITS
SECTION AT OUTLET WORKS STA. 47+32
LOOKING DOWNSTREAM
D
B8 E7
El.768.17
20'
El.758.17
15'
5'
7'
10'
EXCA
SECTION AT OUTLET WORKS STA. 51+35
LOOKING DOWNSTREAM
700
720
740
760
780
800
820







NOTES.

1. For location of Profile, Sections and Borings, see Dwg No. E4
2. For General Geologic Column and Legend see Dwg. No. E1.
3. For Logs of Detached Borings see Dwgs. E13 thru E18.

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

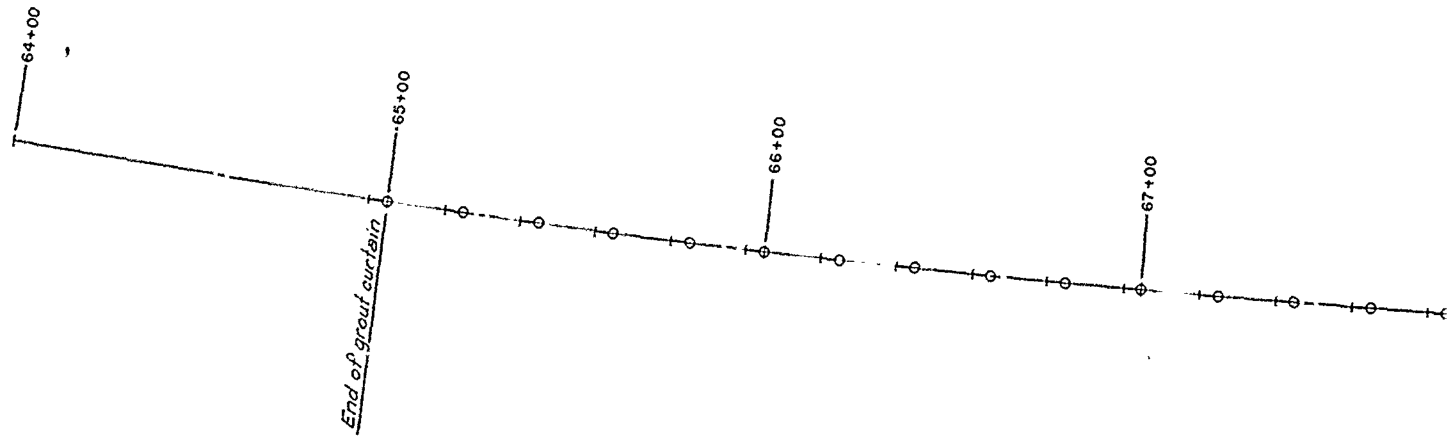
Designed by:
Drawn by:
Checked by:
Submitted by:

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

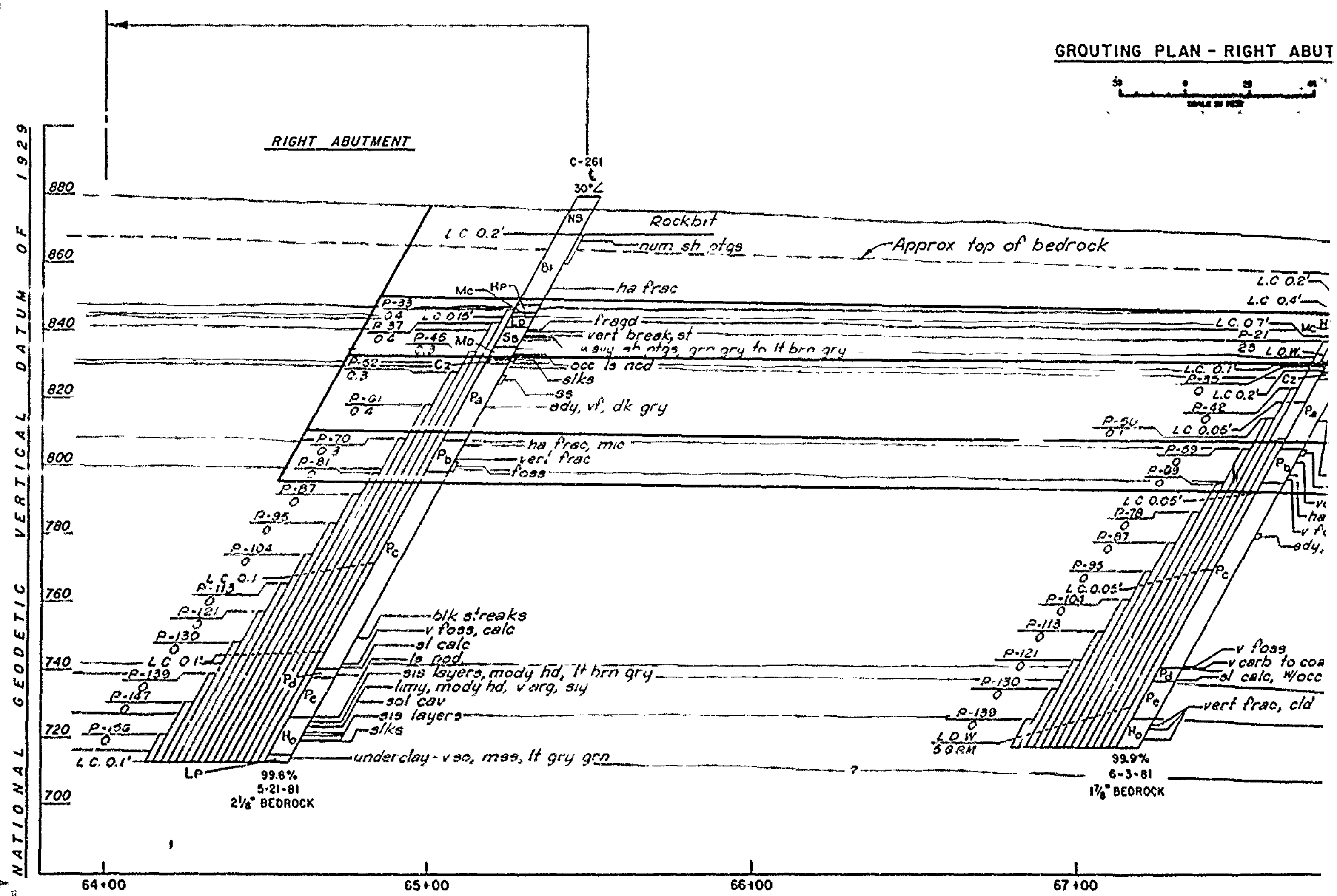
OUTLET WORKS GEOLOGIC PROFILES AND SECTIONS AND EXCAVATION LIMITS

Scale: AS SHOWN
Date: JUNE 1990
Sheet number: 32
Dwg. No.:
File No. RBL-2-1252

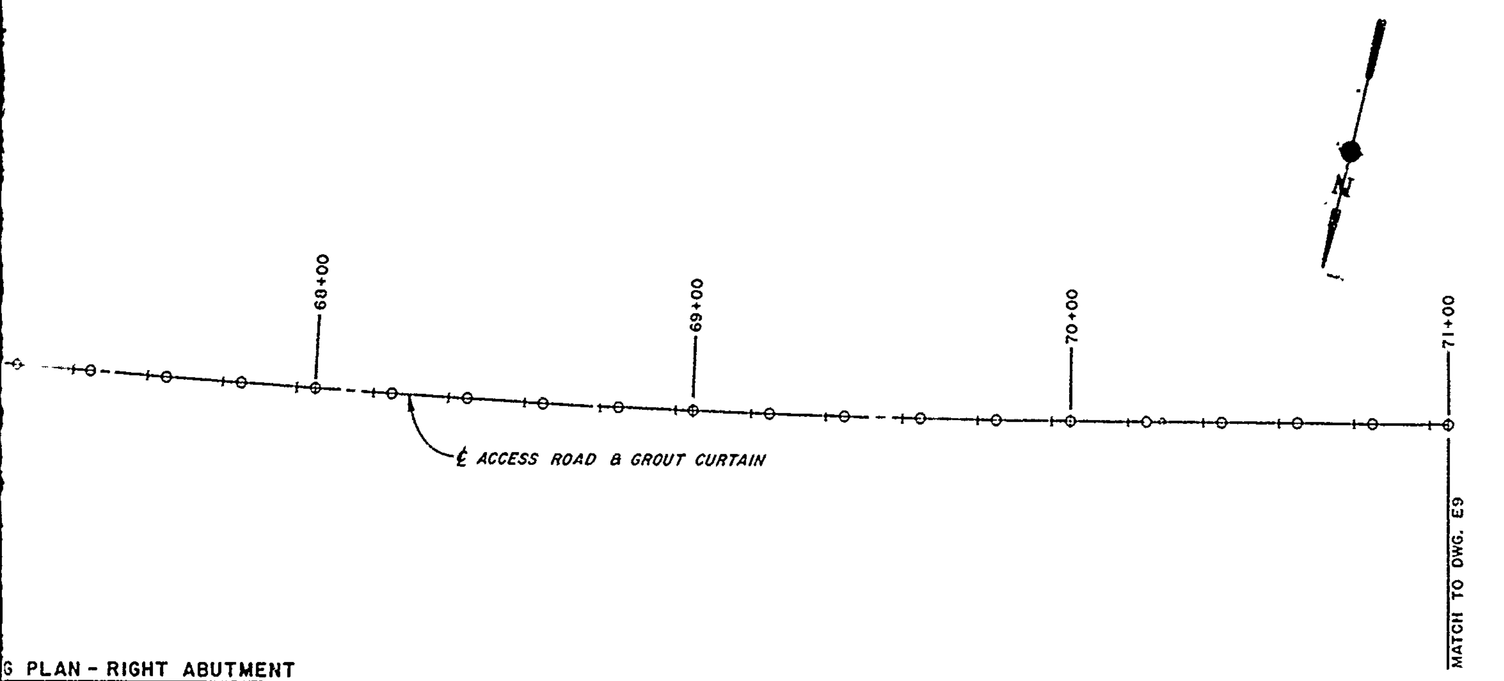
PLATE NO. 32



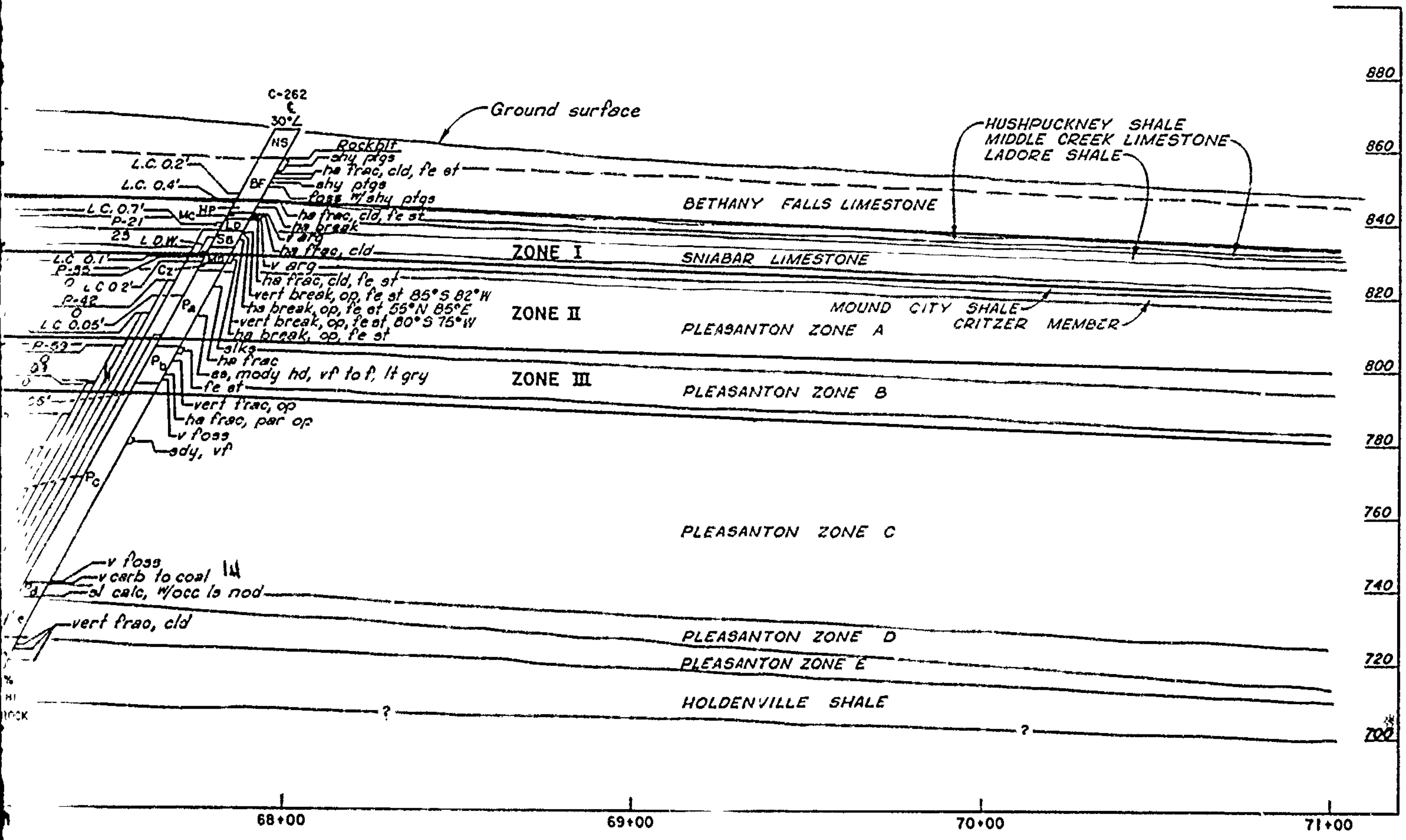
GROUTING PLAN - RIGHT ABUT



GROUTING PROFILE - RIGHT



G PLAN - RIGHT ABUTMENT



PROFILE - RIGHT ABUTMENT

Notes
1. For general geologic column see Dwg. E1.
2. For location of borings see Dwg. E2.
3. Only primary grout holes are shown on plan.
4. Borings C-261 & C-262 are drilled [illegible]

Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

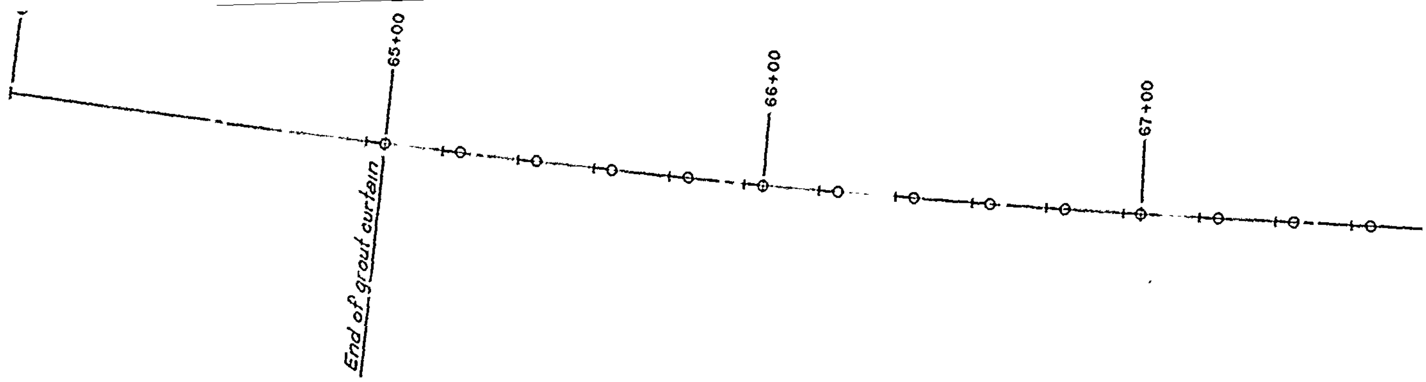
Designed by:
Drawn by:
Checked by:

US Army Corps of Engineers

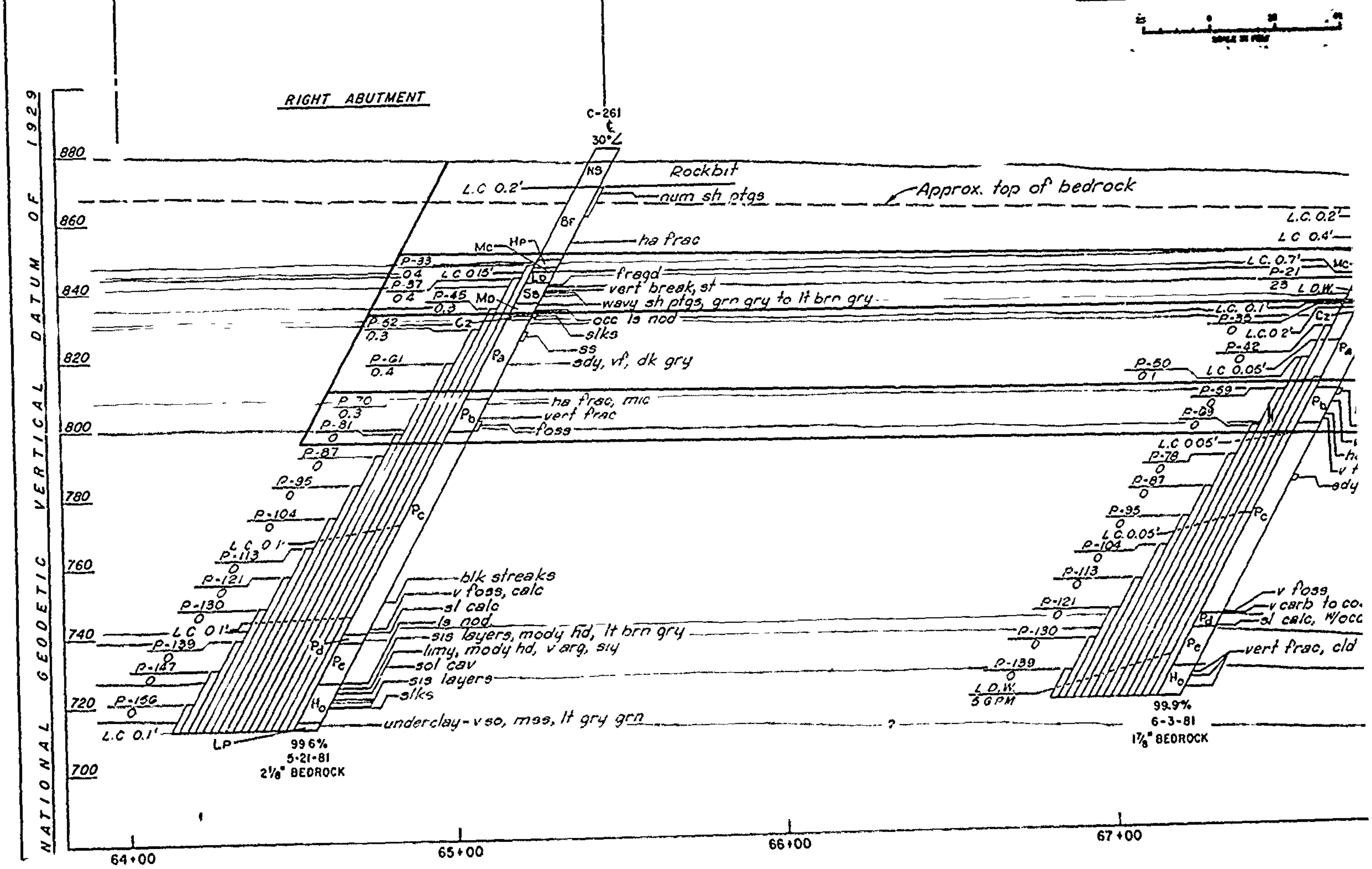
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

CURTAIN GROUTING PLAN AND PROFILE
FOR RIGHT ABUTMENT
STA. 64+00 TO STA. 71+00

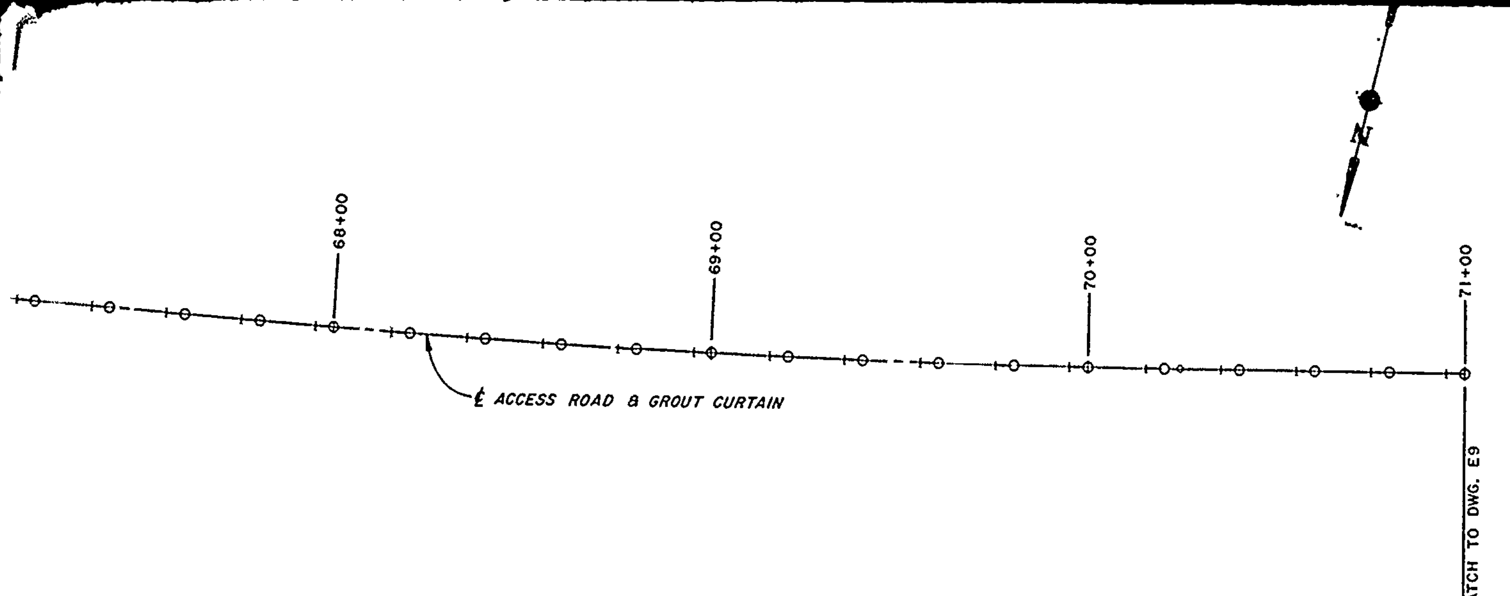
Scale: AS SHOWN
Sheet number



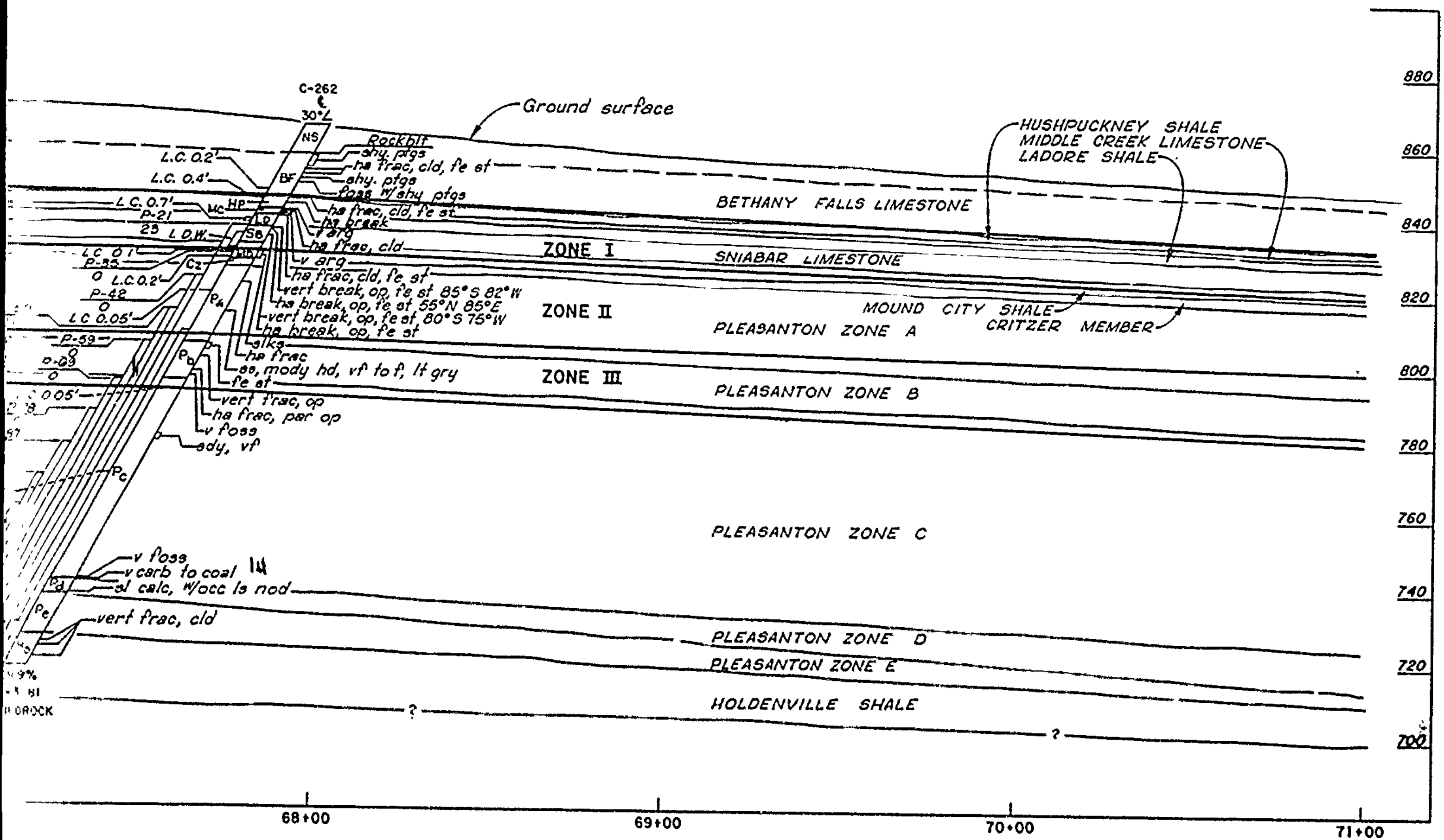
GROUTING PLAN - RIGHT ABL



GROUTING PROFILE - RIGHT



ING PLAN - RIGHT ABUTMENT



NG PROFILE - RIGHT ABUTMENT

Notes
1. For general geologic column see Dwg. E1.
2. For location of borings see Dwg. E2.
3. Only primary grout holes are shown on plan.
4. Borings C-261 & C-262 are drilled landward and parallel to dam axis.

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:
Drawn by:
Checked by:
Submitted by:

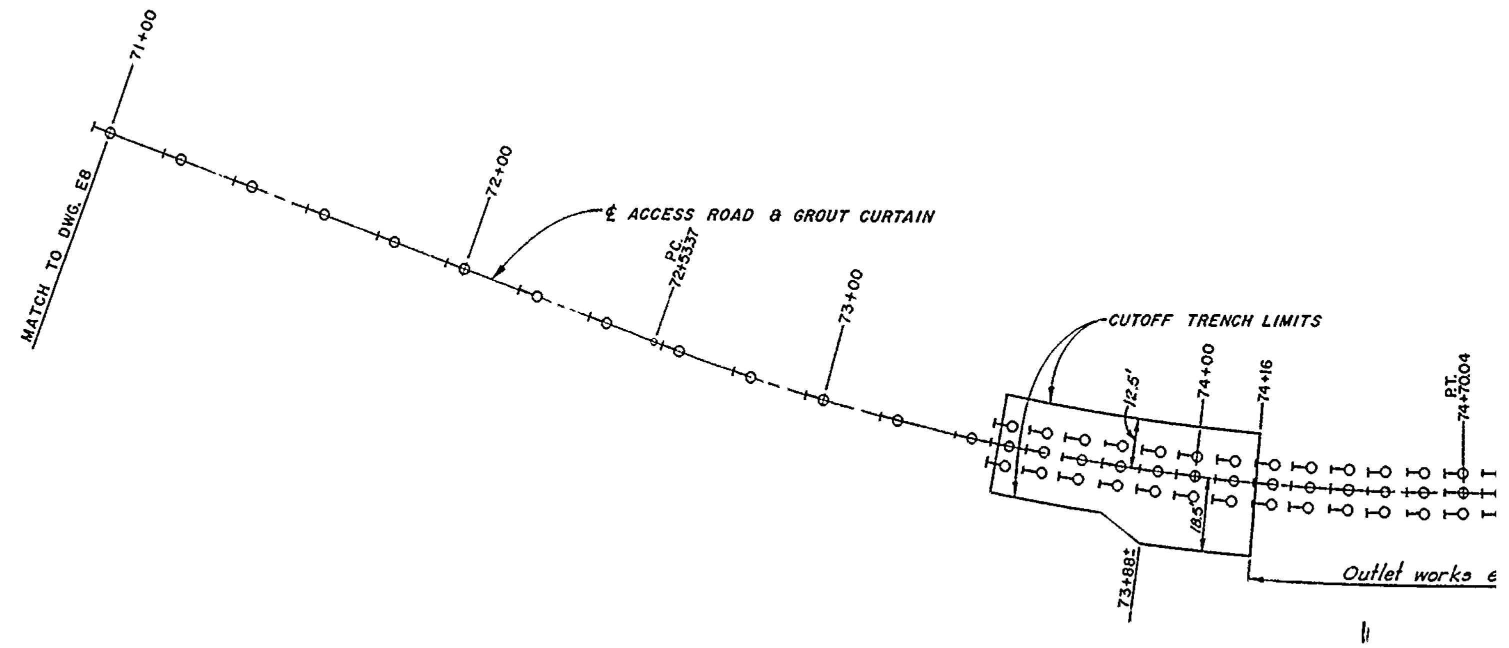
US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

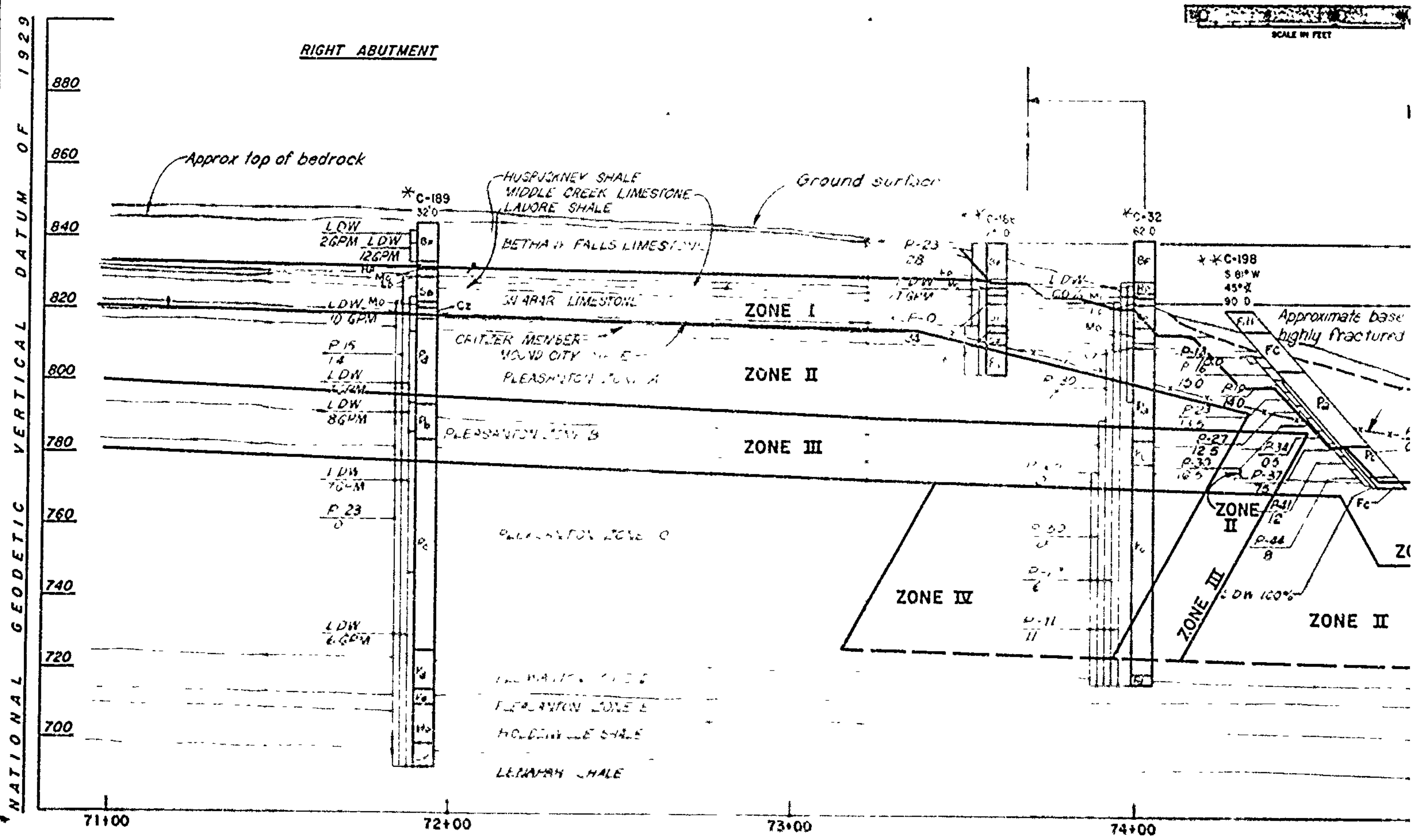
CURTAIN GROUTING PLAN AND PROFILE FOR RIGHT ABUTMENT STA. 64+00 TO STA. 71+00

Scale: AS SHOWN
Date: JUNE 1990
Sheet number: 33
Dwg. No.
File No: RBL-2-1253

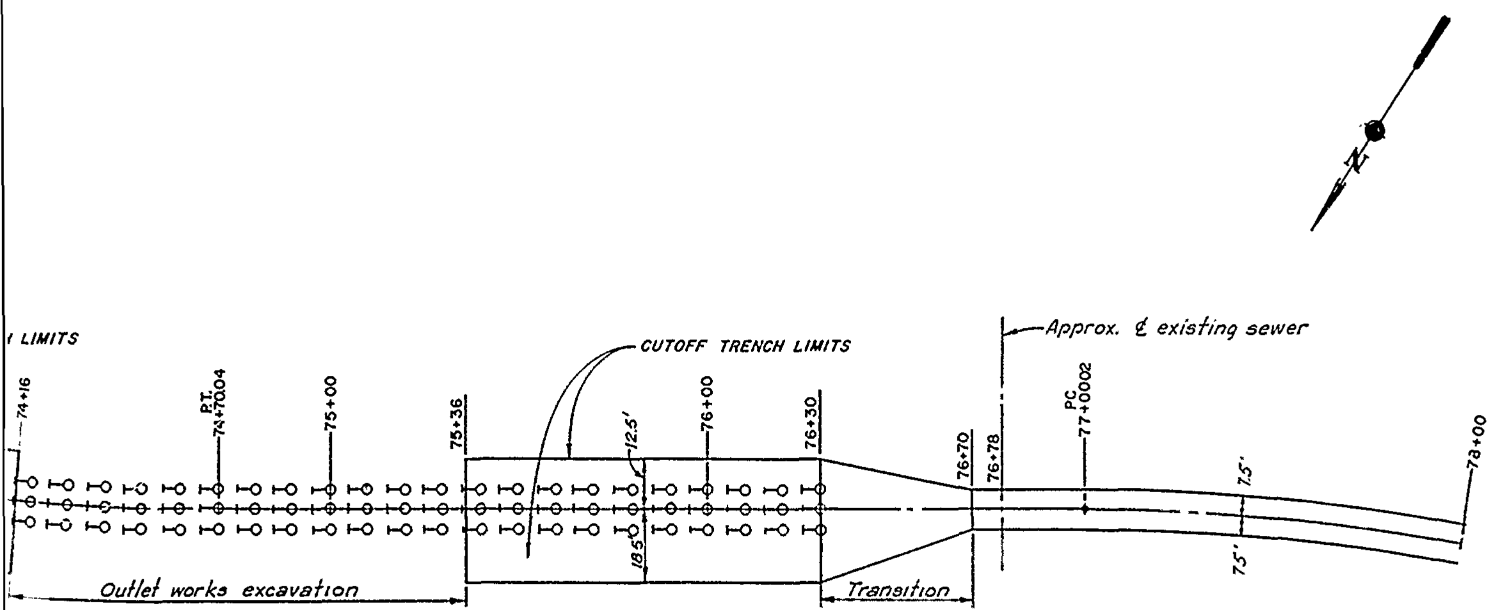
PLATE NO. 33



GROUTING PLAN - RIGHT ABU

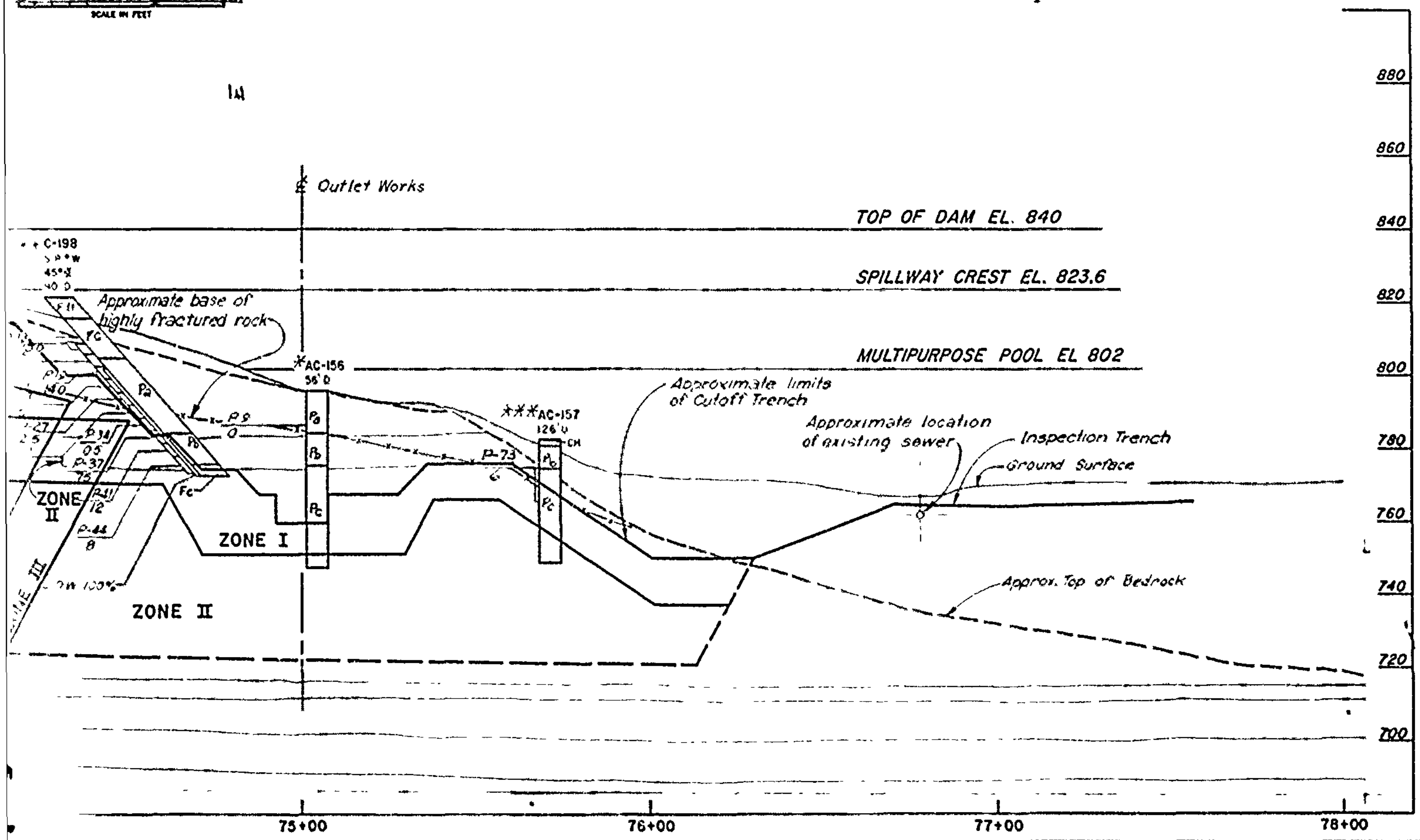


GROUTING PROFILE - RIGHT A



NG PLAN - RIGHT ABUTMENT

SCALE IN FEET



NG PROFILE - RIGHT ABUTMENT

Notes:
1. For General Geologic Column and legend, see Dwg E1.
2. For location of borings see Dwgs E2, E3 & E4
3. Borings with a single *, see Dwg. E5.
4. Borings with a double **, see Logs of Detached Borings.
5. Borings with a triple ***, see Dwg. E7
6. Only primary grout holes are shown on Plan

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

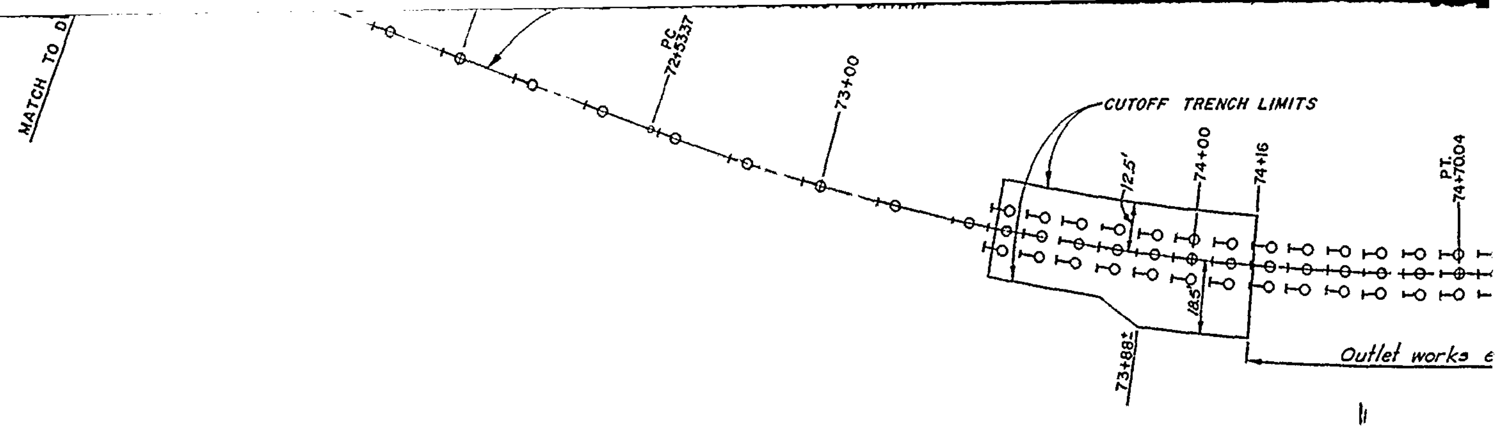
Designed by

Drawn by

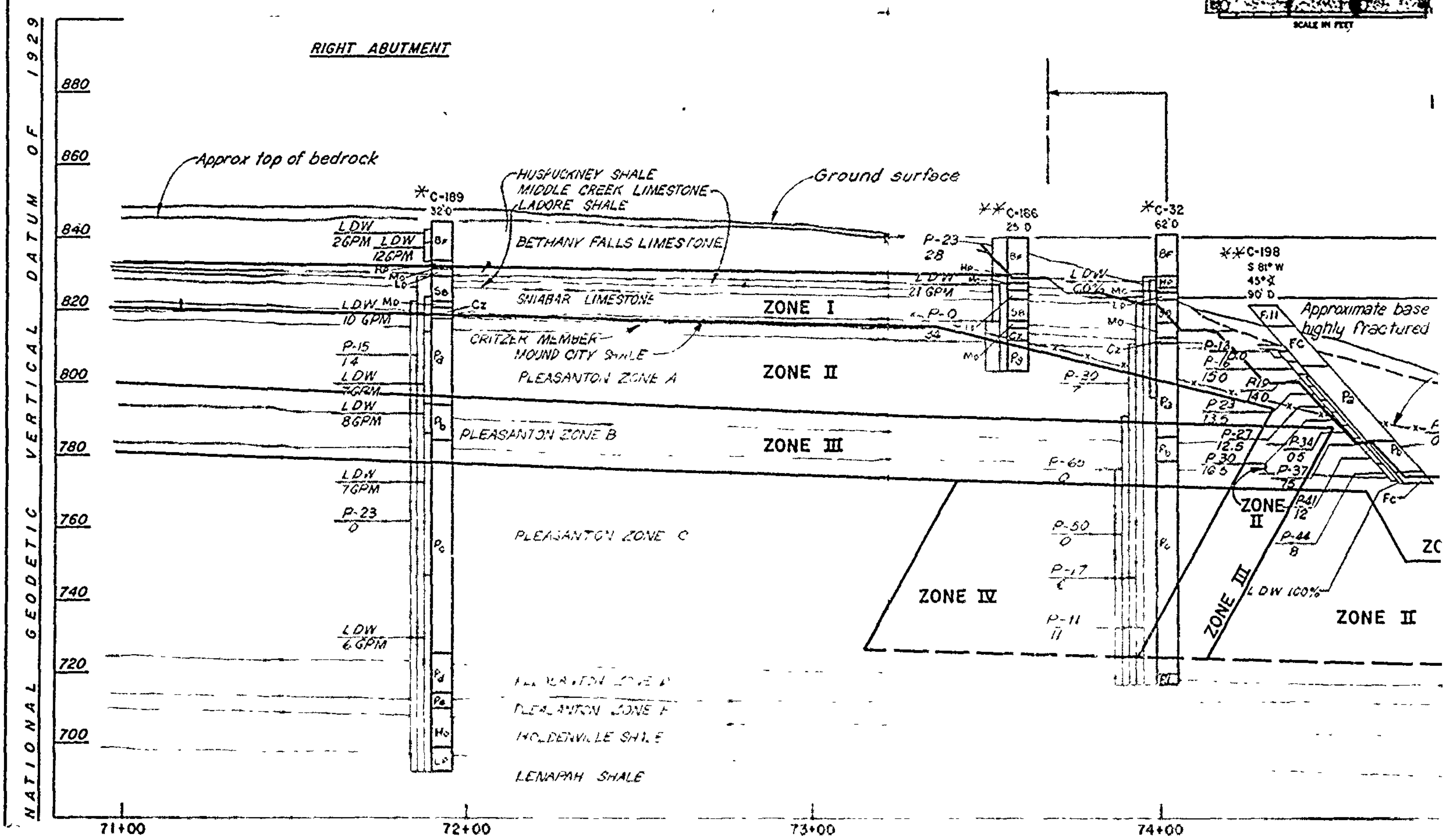
US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

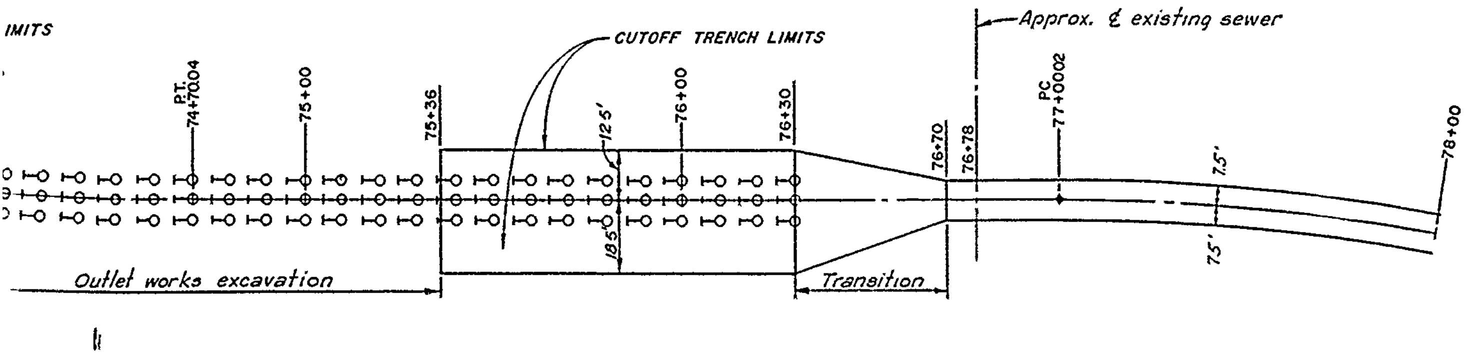
CURTAIN GROUTING PLAN AND PROFILE
FOR RIGHT ABUTMENT
STA 71+00 TO STA 78+00



GROUTING PLAN - RIGHT ABU

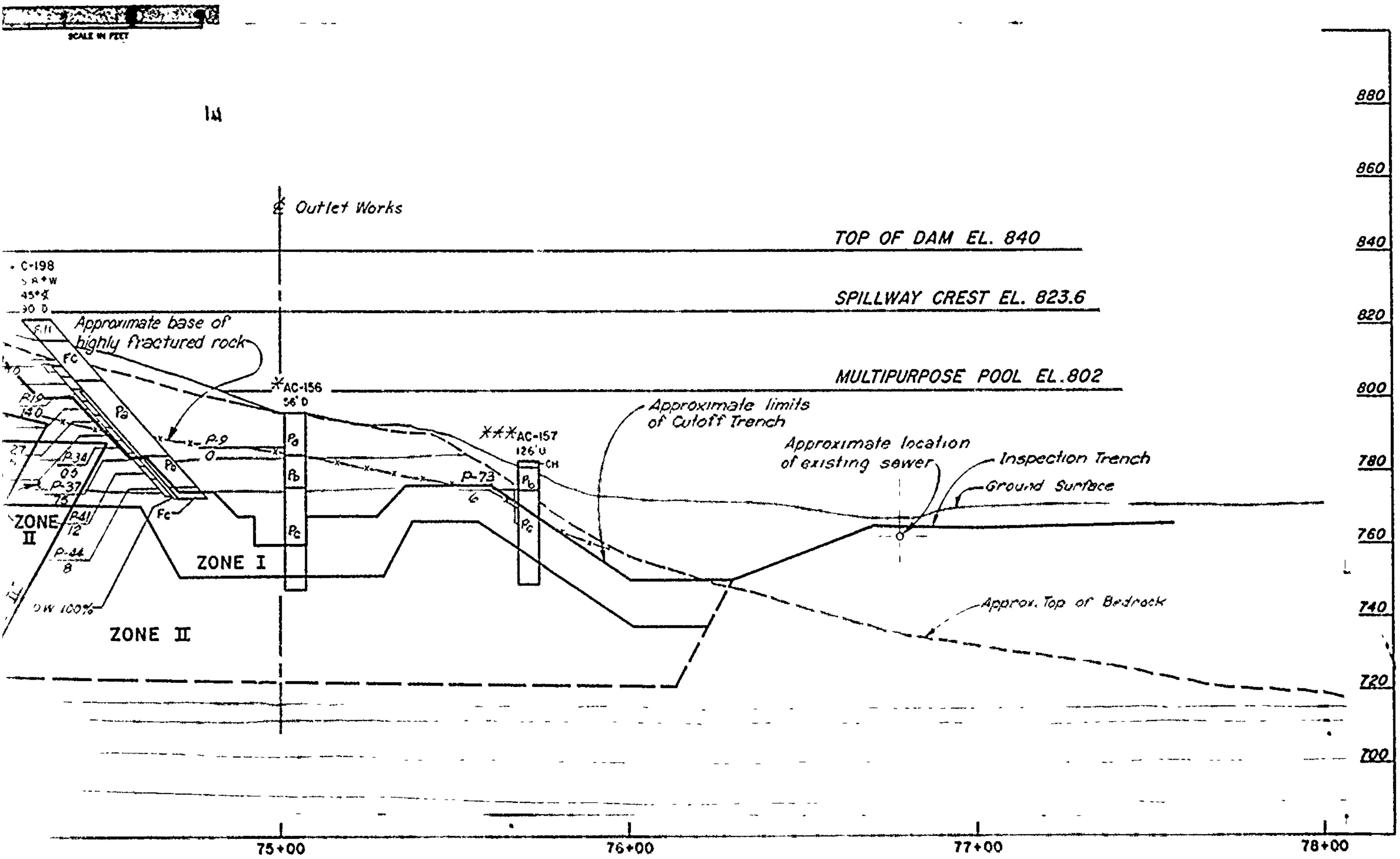


GROUTING PROFILE - RIGHT A



PLAN - RIGHT ABUTMENT

SCALE IN FEET



PROFILE - RIGHT ABUTMENT

Notes:
1. For General Geologic Column and legend, see Dwg E1.
2. For location of borings see Dwgs E2, E3 & E4
3. Borings with a single *, see Dwg. E5.
4. Borings with a double **, see Logs of Detached Borings.
5. Borings with a triple ***, see Dwg E7
6. Only primary grout holes are shown on Plan

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by
Drawn by
Checked by
Submitted by

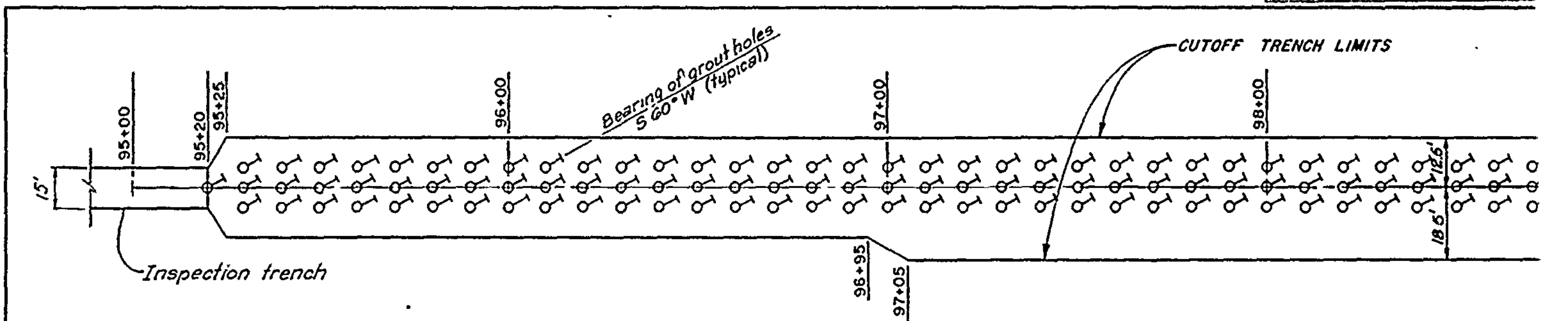
US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

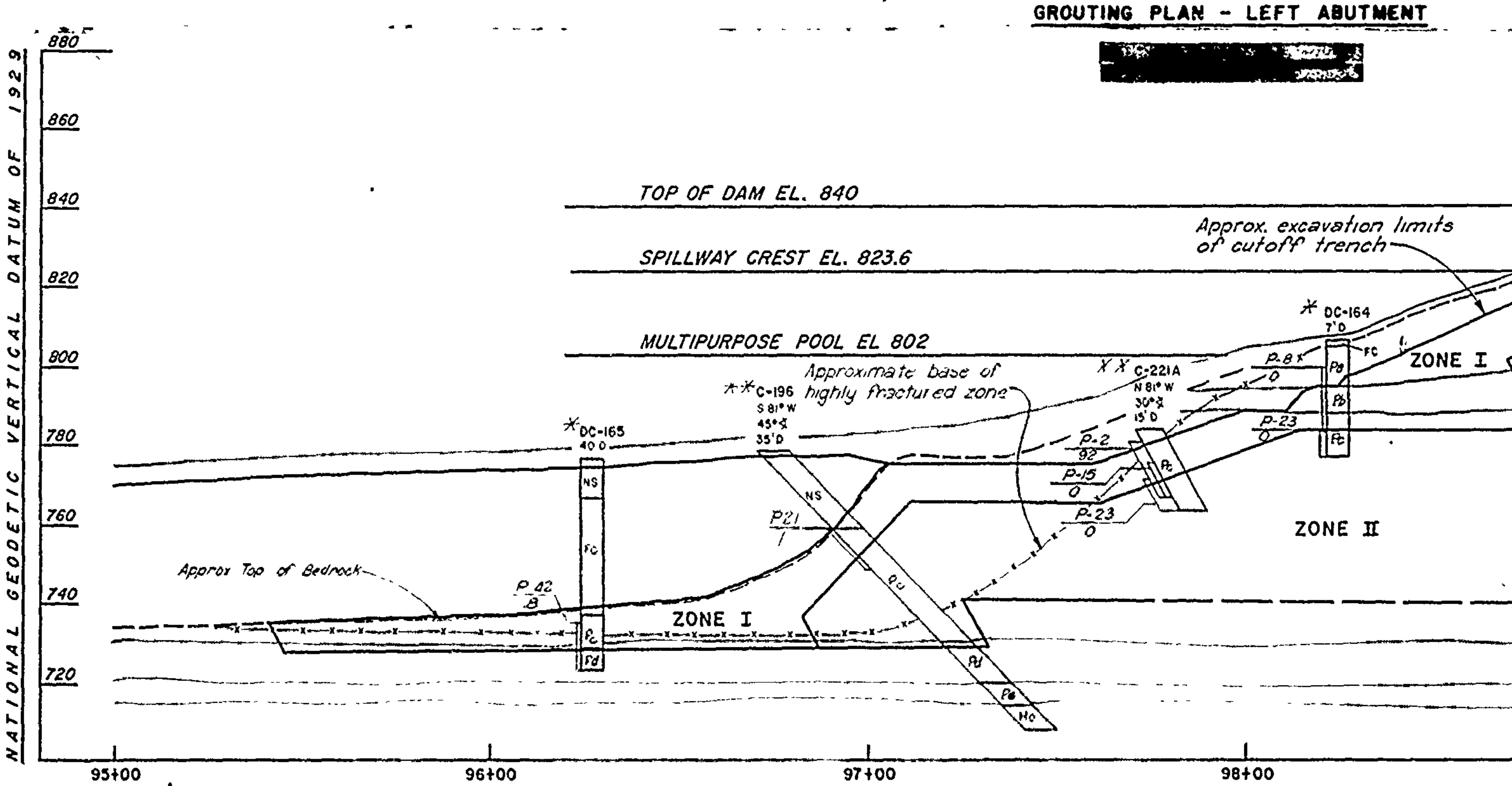
CURTAIN GROUTING PLAN AND PROFILE FOR RIGHT ABUTMENT STA. 71+00 TO STA. 78+00

Scale: AS SHOWN
Date: JUNE 1990
Sheet number: 34
No. R3L-2-1254

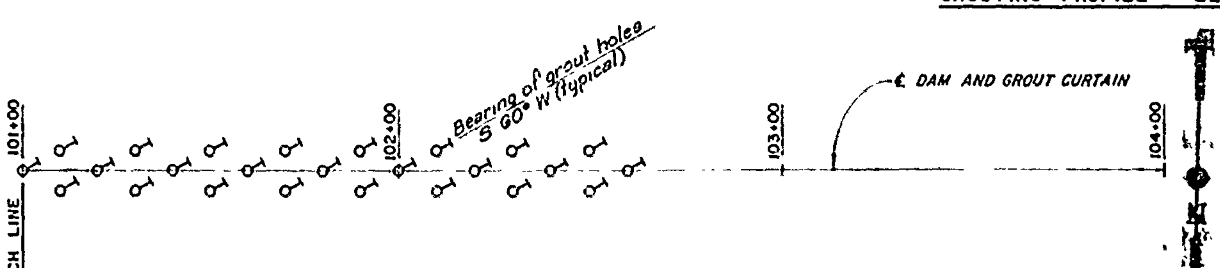
PLATE NO 34



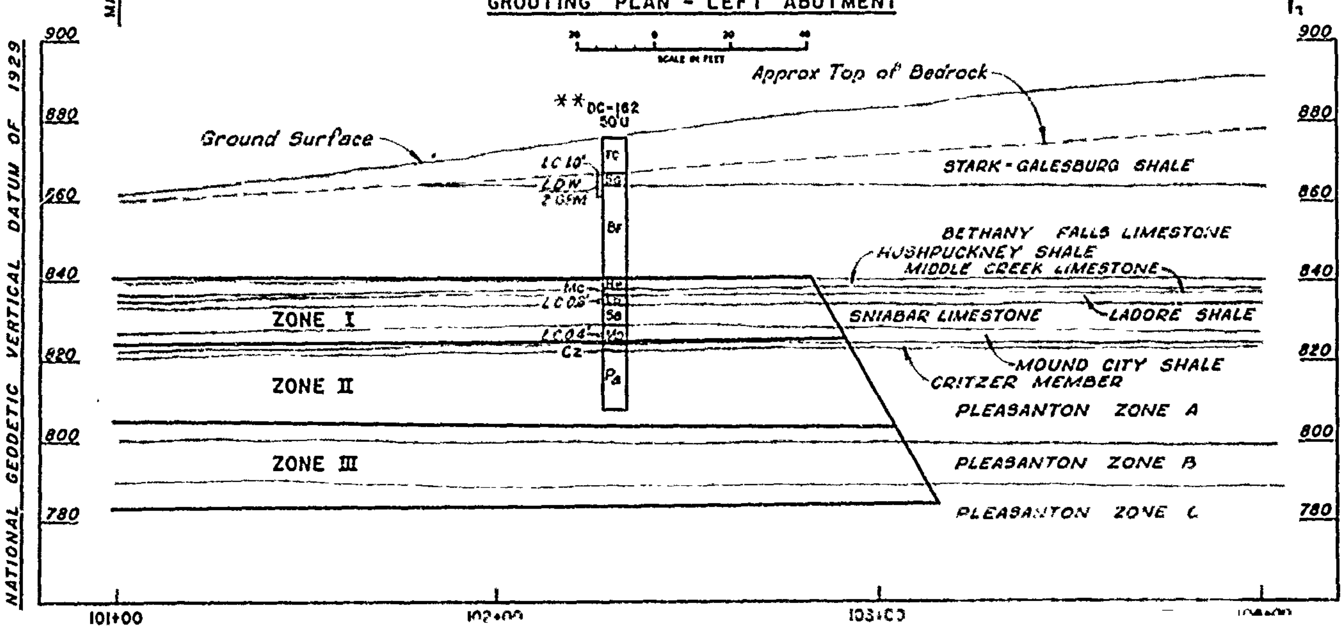
GROUTING PLAN - LEFT ABUTMENT

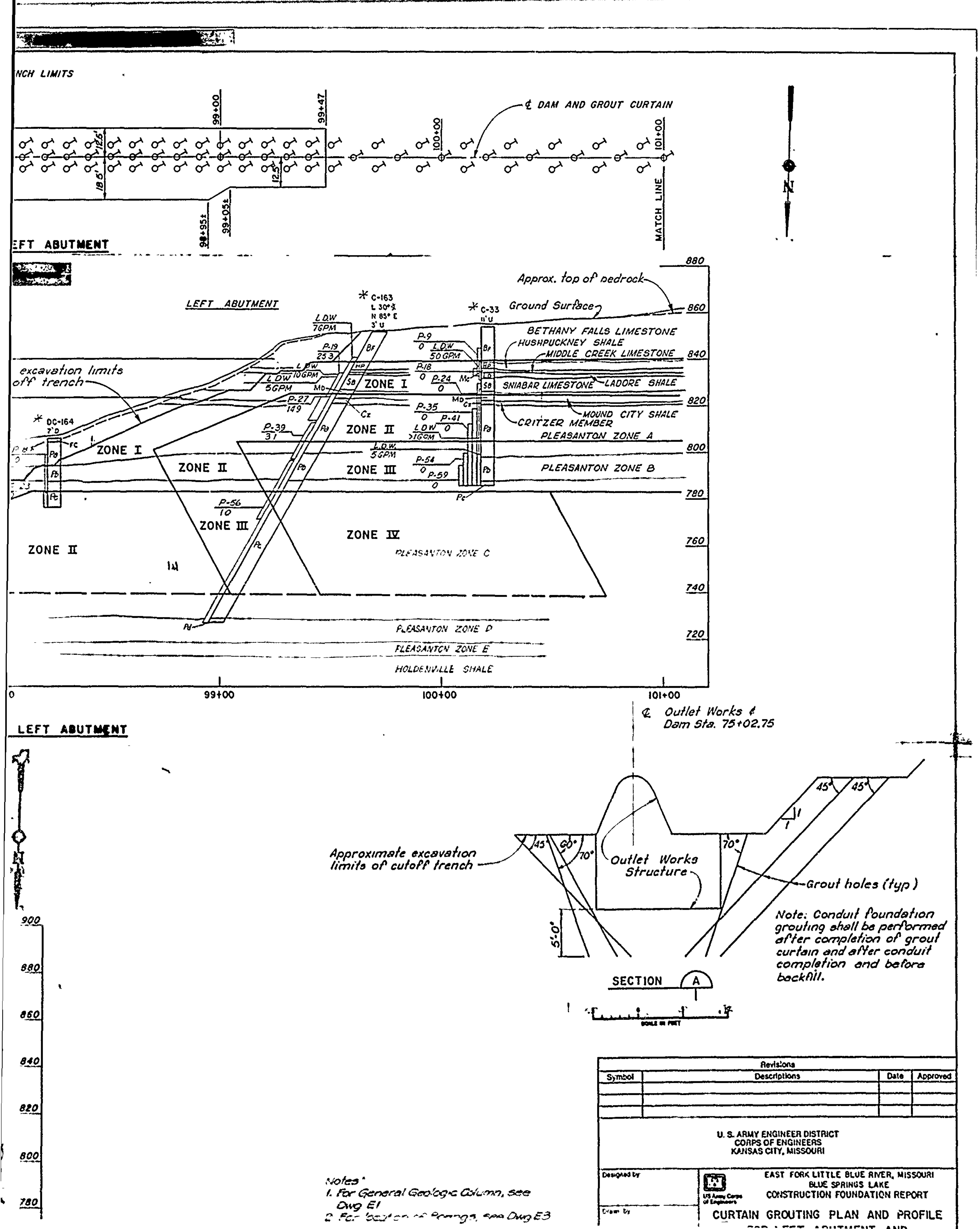


GROUTING PROFILE - LEFT ABUTMENT



GROUTING PLAN - LEFT ABUTMENT





Notes:
1. For General Geologic Column, see Dwg E1
2. For location of borings, see Dwg E3

Symbol	Descriptions	Date	Approved

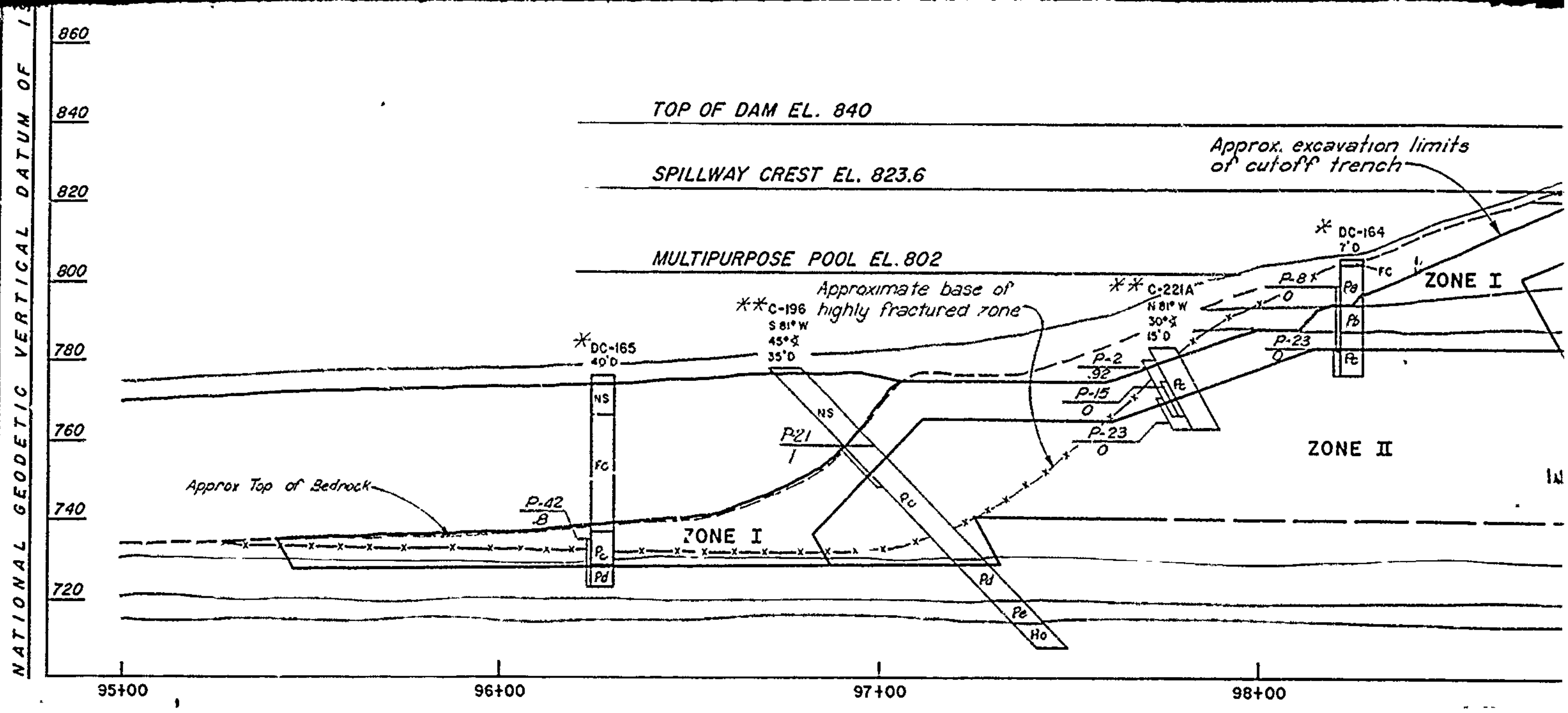
U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by
Drawn by

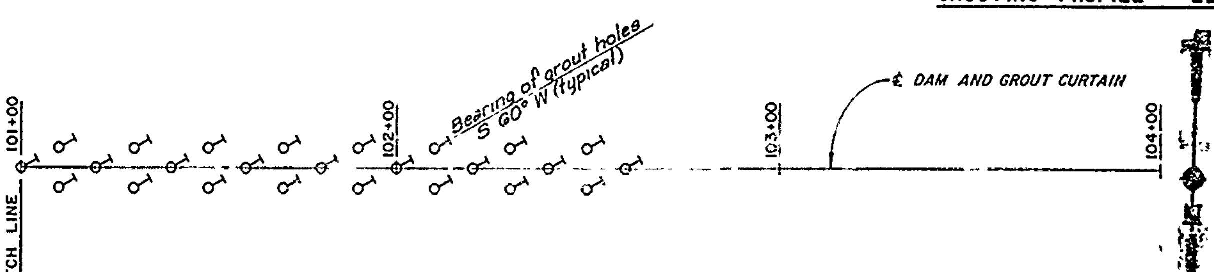
US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

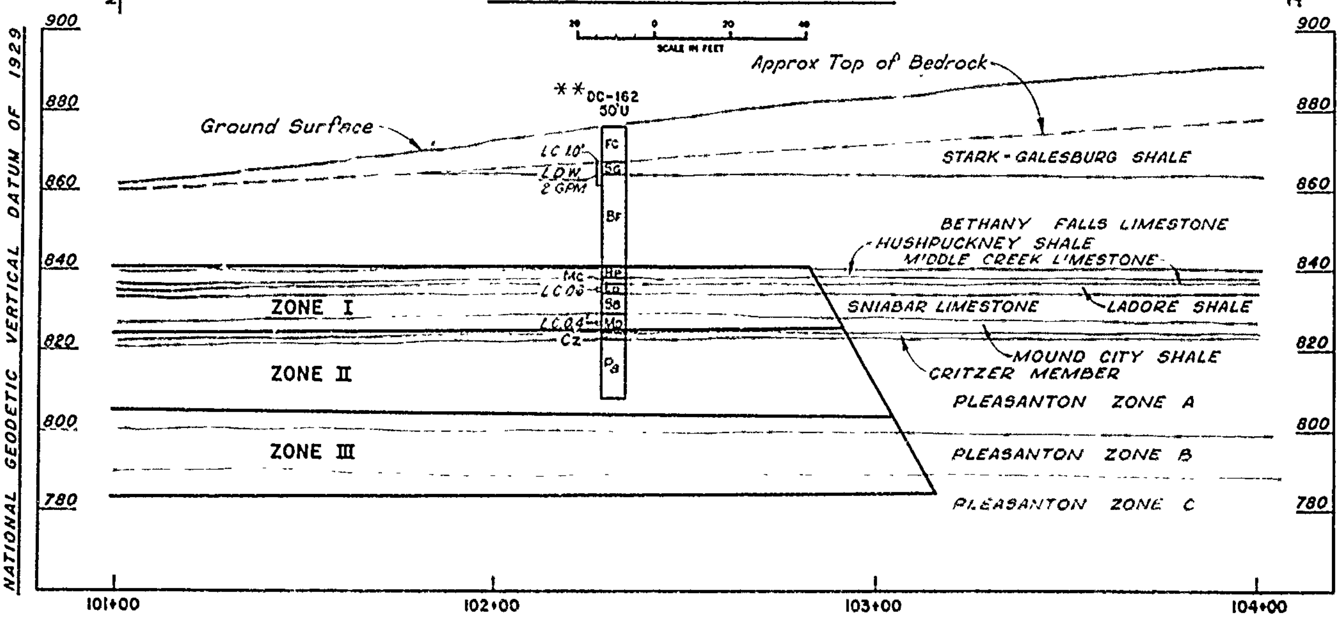
CURTAIN GROUTING PLAN AND PROFILE



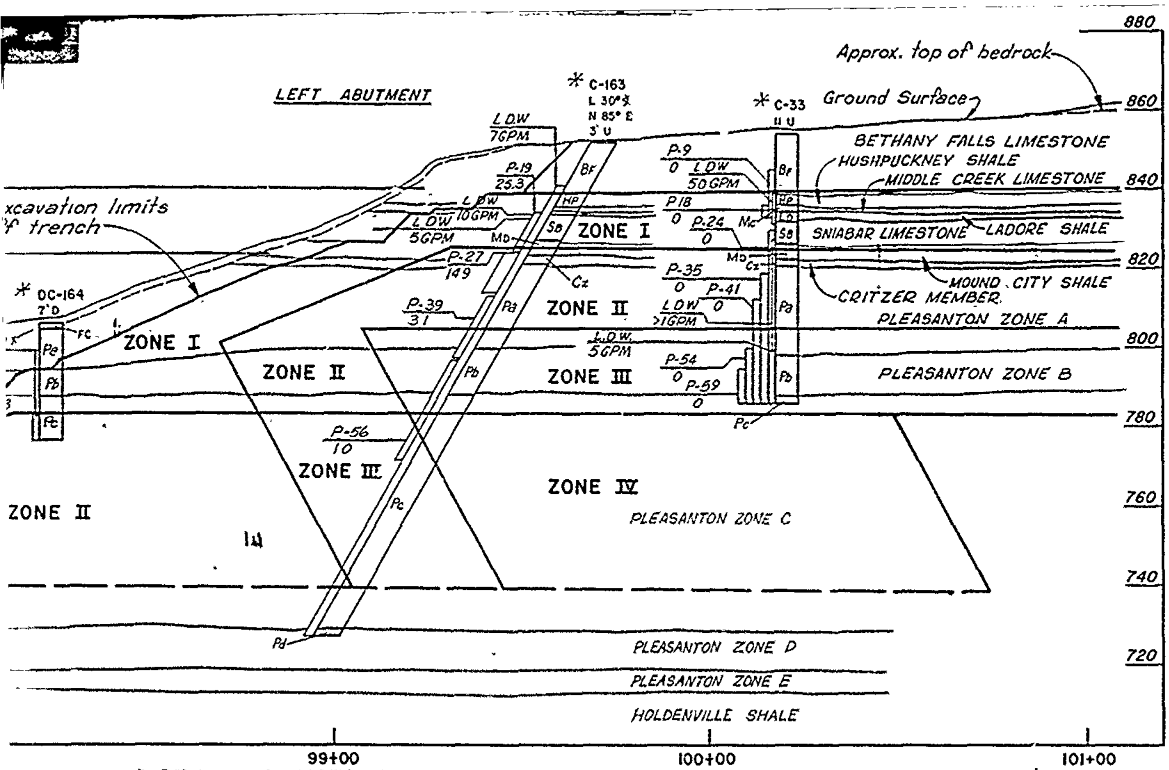
GROUTING PROFILE - LEFT ABUTMENT



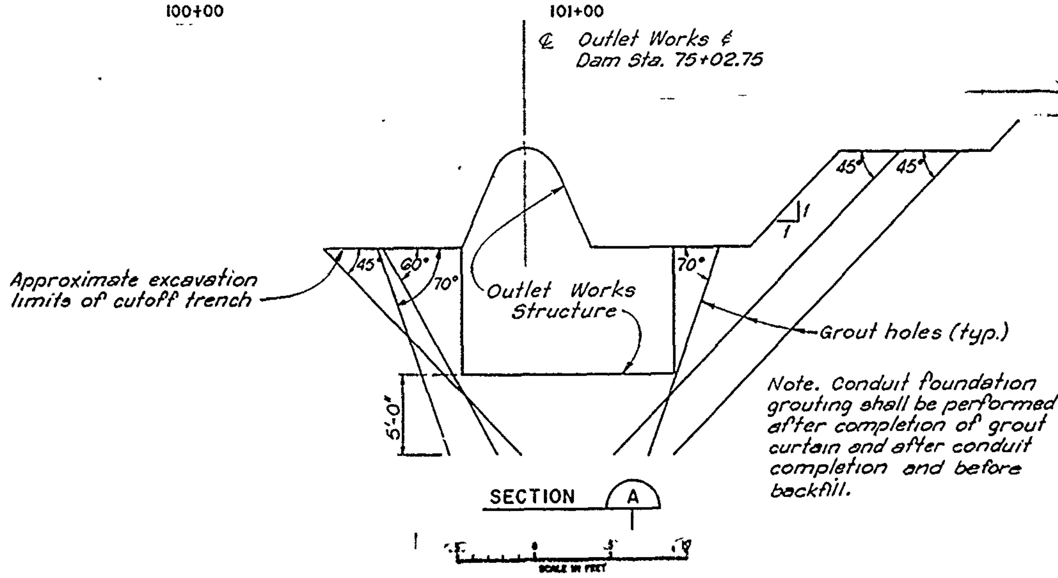
GROUTING PLAN - LEFT ABUTMENT



GROUTING PROFILE - LEFT ABUTMENT



LEFT ABUTMENT



Notes:
1. For General Geologic Column, see Dwg. E1.
2. For location of Borings, see Dwg E3.
3. Only primary grout holes are shown on plan.
4. Borings with a single *, see Dwg E5
5. Borings with a double **, see Logs of Detached Borings.

Revisions

Symbol	Descriptions	Date	Approved

U S ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

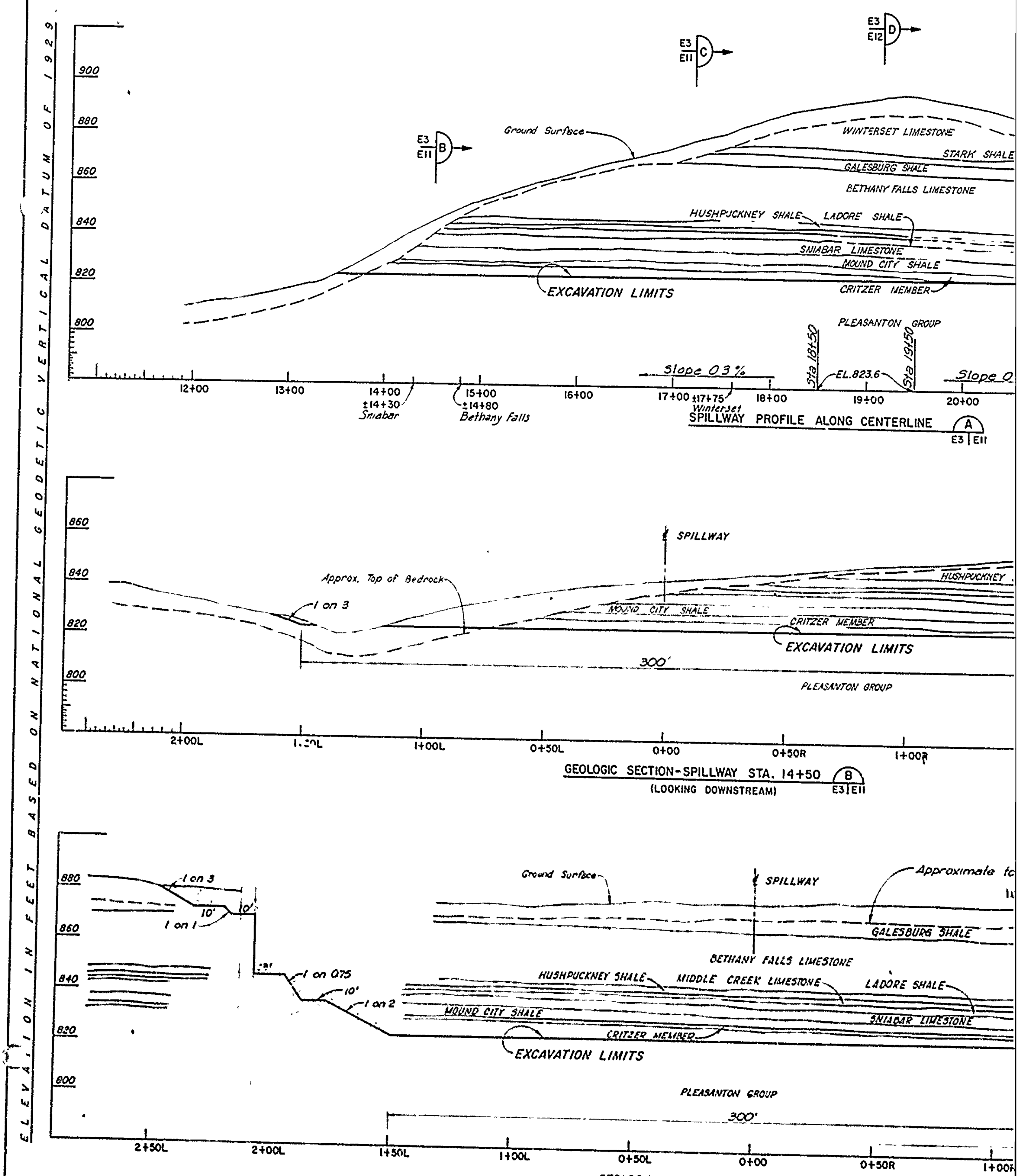
US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

CURTAIN GROUTING PLAN AND PROFILE FOR LEFT ABUTMENT AND CONDUIT FOUNDATION GROUTING DETAIL

Designed by:	
Drawn by:	
Checked by:	
Submitted by:	
Scale:	AS SHOWN
Date:	JUNE 1990
Dwg. No:	
Sheet number	35
File No	RBL-2-1255

PLATE NO. 35

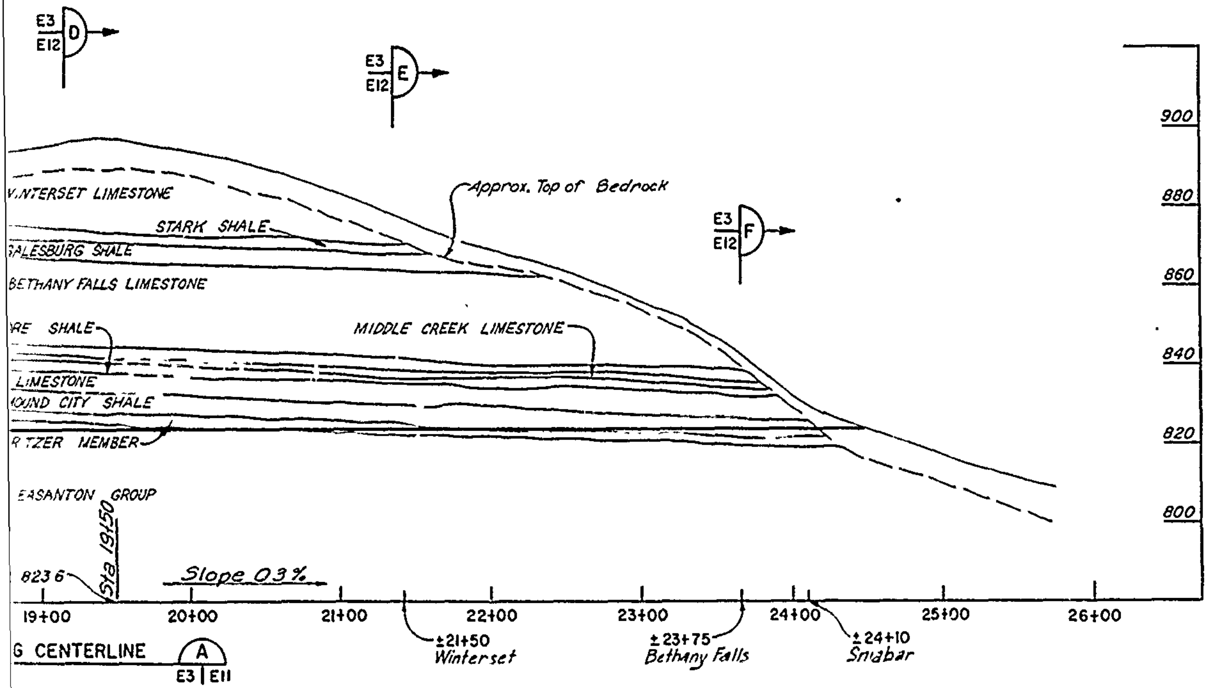


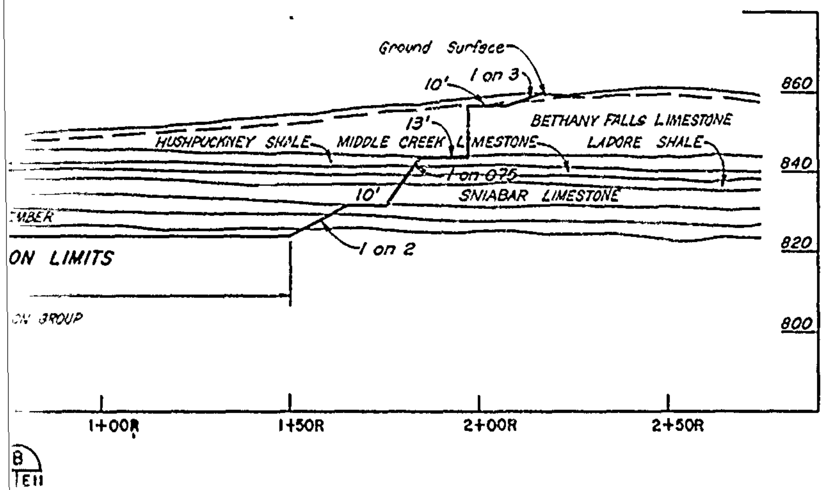
SPILLWAY PROFILE ALONG CENTERLINE (A) E3 | E11

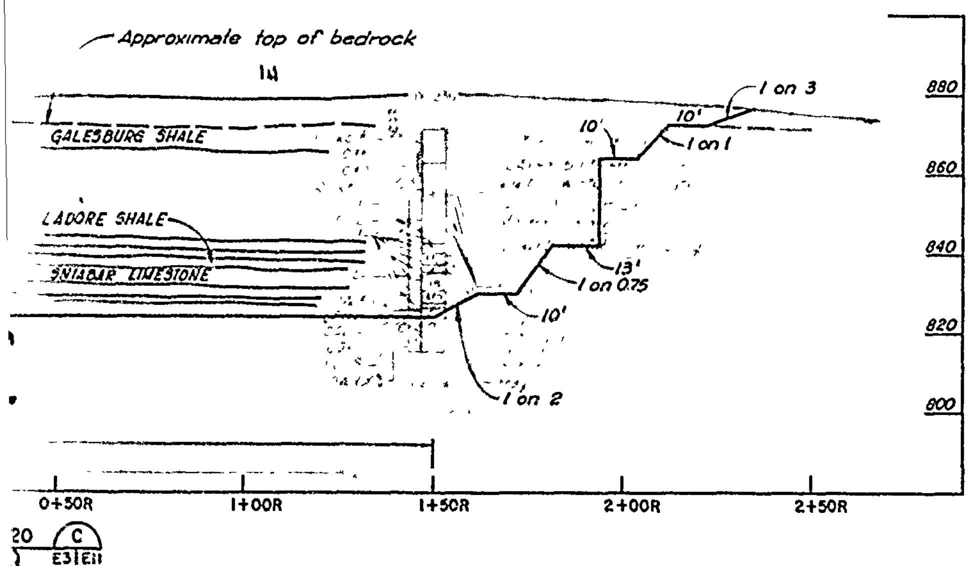
GEOLOGIC SECTION-SPILLWAY STA. 14+50 (B) E3 | E11
(LOOKING DOWNSTREAM)

GEOLOGIC SECTION-SPILLWAY STA. 17+20 (C) E3 | E11
(LOOKING DOWNSTREAM)

VALUE ENGINEERING PAYS







NOTES:
1 For general geologic column and legend see Dwg. E 1
2 For plan of spillway see Dwg. B7.
3 For location of Borings, see Dwgs. E2 & E3.

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:
Drawn by:
Checked by:

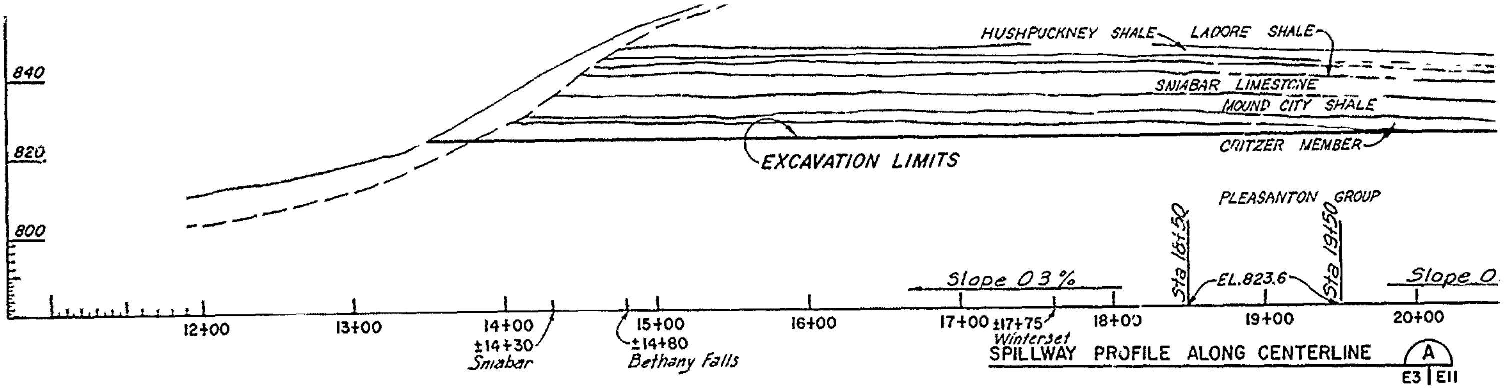
US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

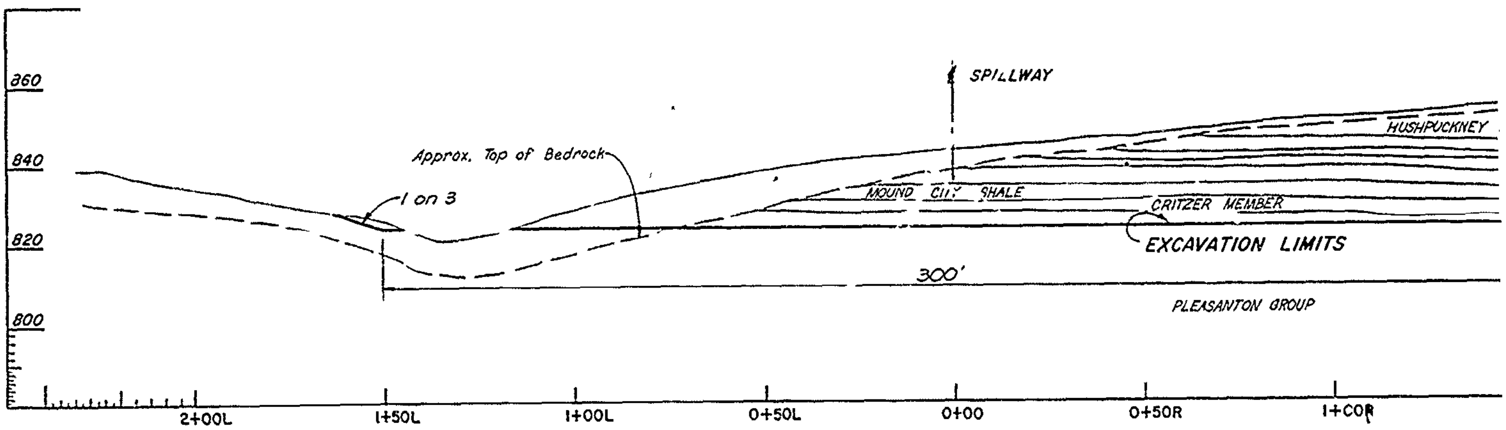
SPILLWAY PROFILE AND SECTIONS
GEOLOGY AND EXCAVATION LIMITS

Scale: AS SHOWN
Sheet number:
Date:

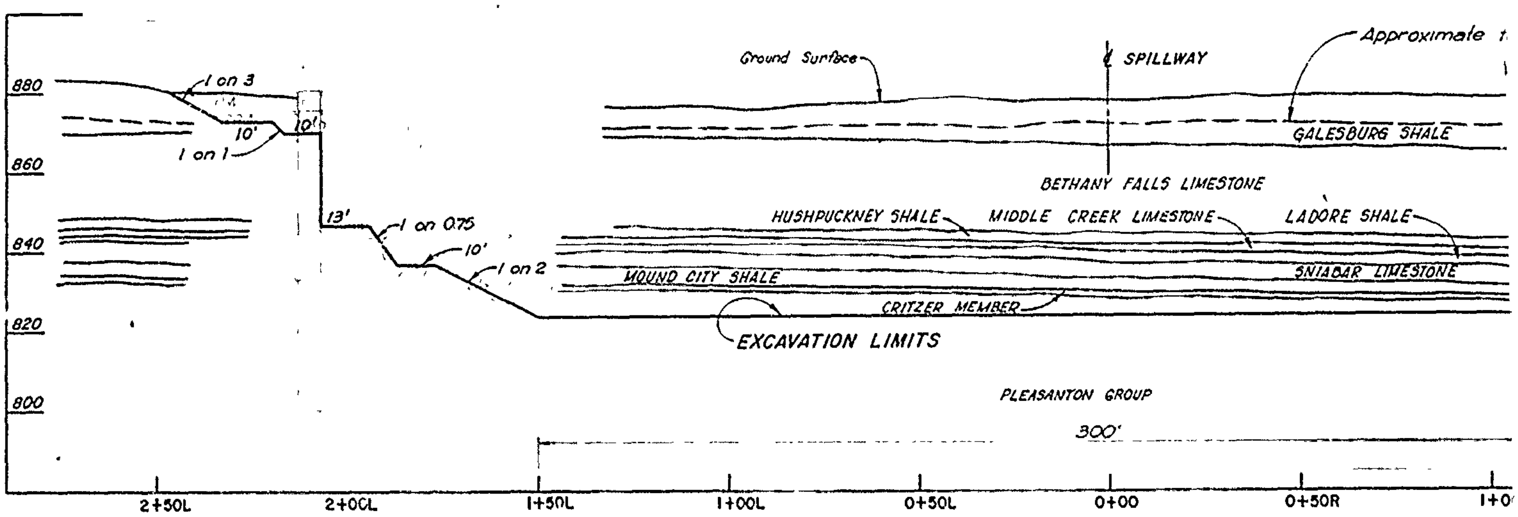
ELEVATION IN FEET BASED ON NATIONAL GEODETIC VERTICAL DAT



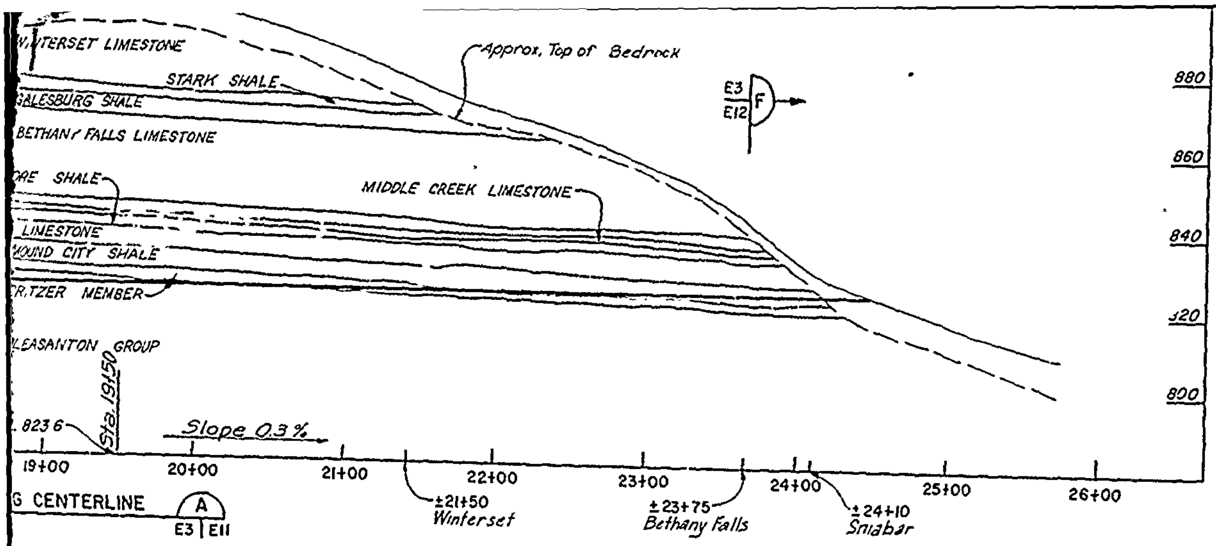
SPILLWAY PROFILE ALONG CENTERLINE (A) E3 | E11

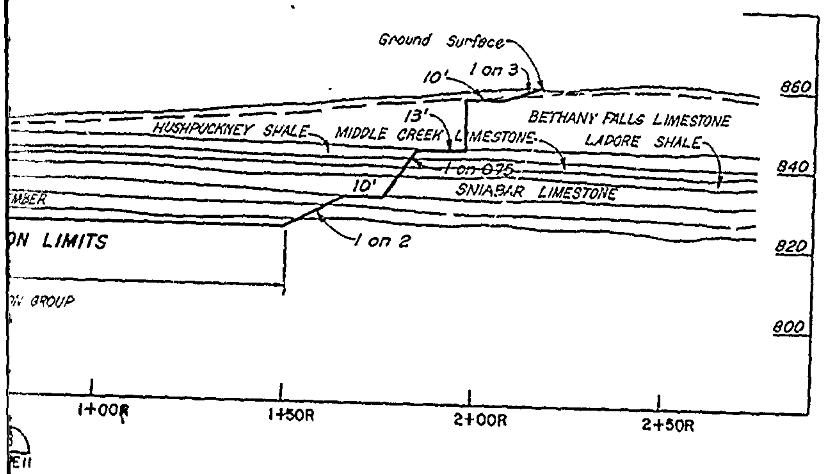


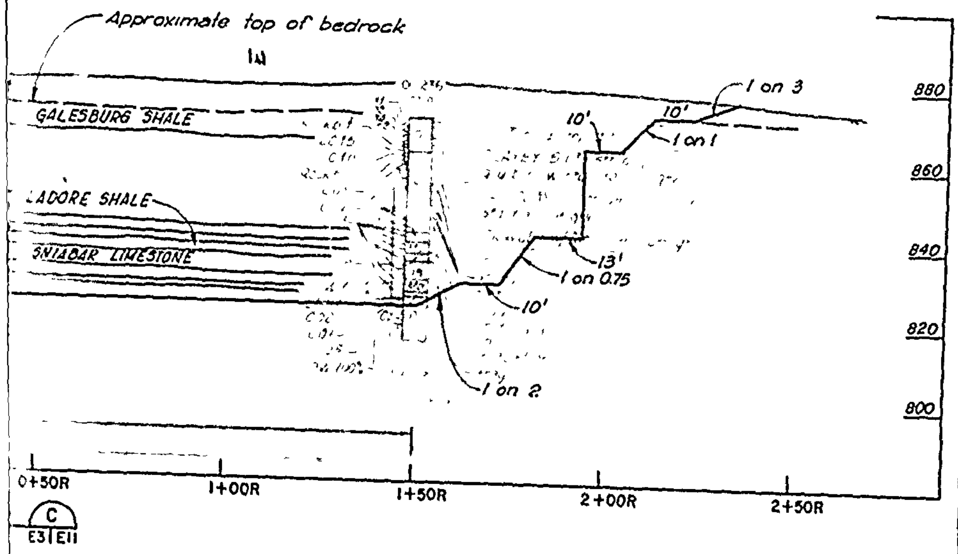
GEOLOGIC SECTION-SPILLWAY STA. 14+50 (B) E3 | E11
(LOOKING DOWNSTREAM)



GEOLOGIC SECTION-SPILLWAY STA. 17+20 (C) E3 | E11
(LOOKING DOWNSTREAM)







NOTES:
1 For general geologic column and legend see Dwg E 1
2 For plan of spillway see Dwg. B7.
3 For location of Borings, see Dwgs E2 & E3.

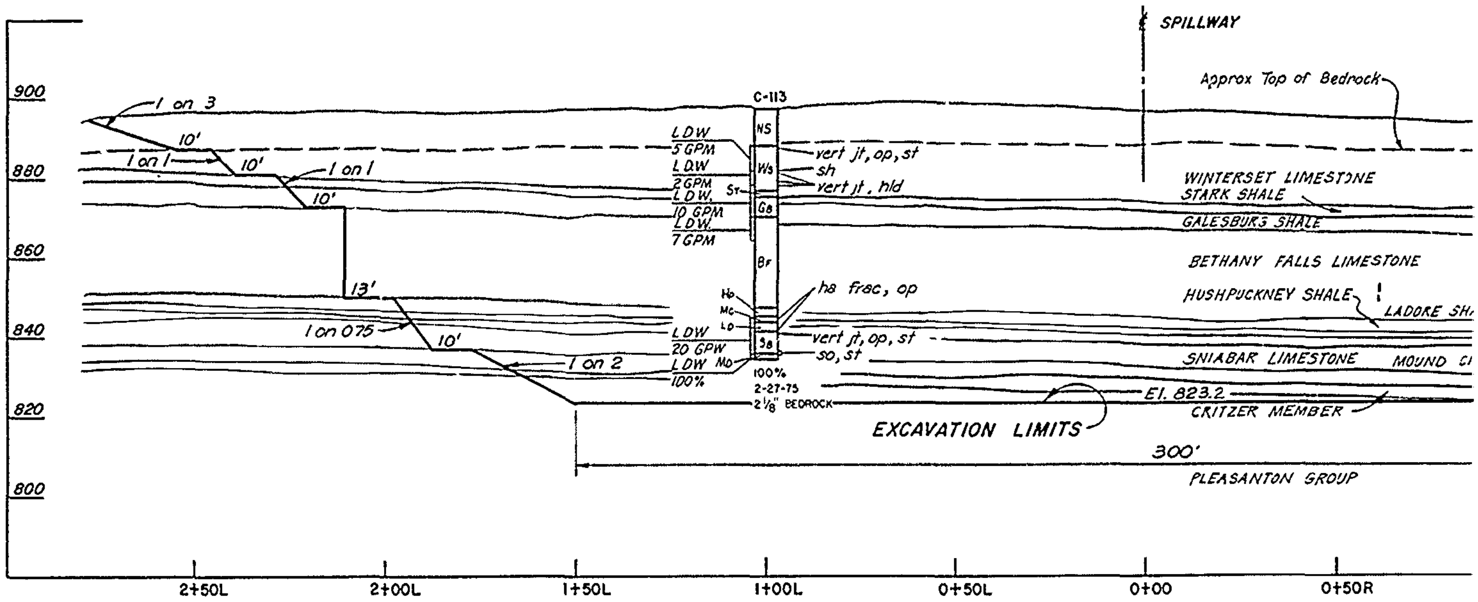
Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

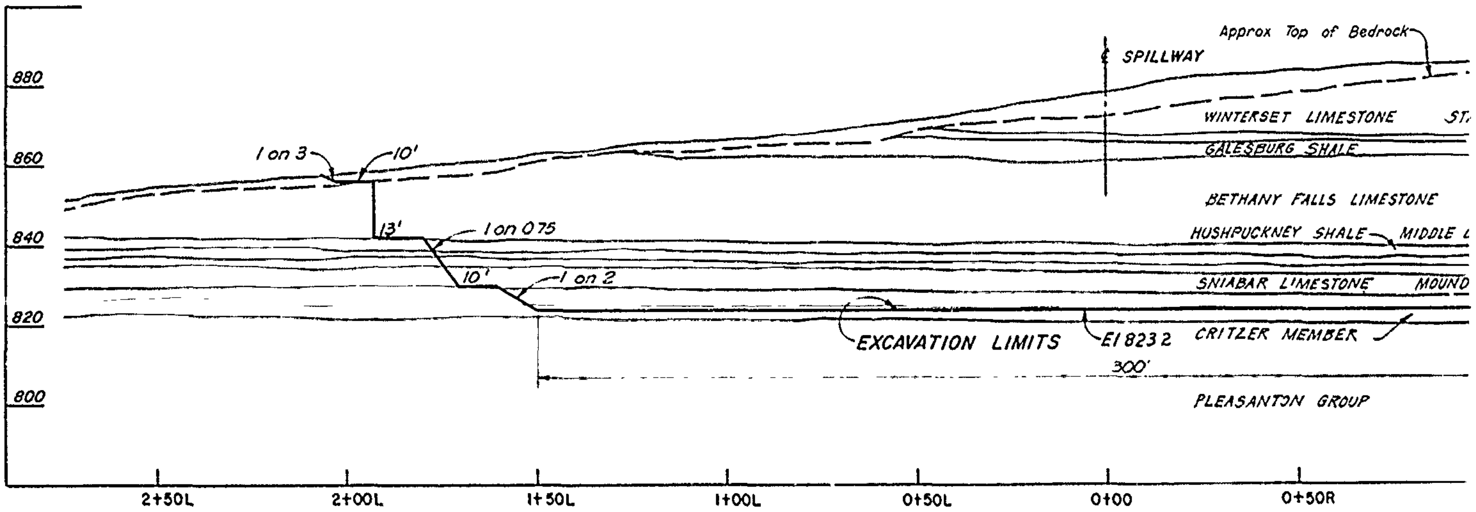
Designed by:	US Army Corps of Engineers — EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by:	SPILLWAY PROFILE AND SECTIONS GEOLOGY AND EXCAVATION LIMITS
Checked by:	Scale: AS SHOWN
Submitted by:	Date: JUNE 1990 — Sheet number: 36
	Dwg No.: — File No. RBL-2-1256

PLATE NO. 36

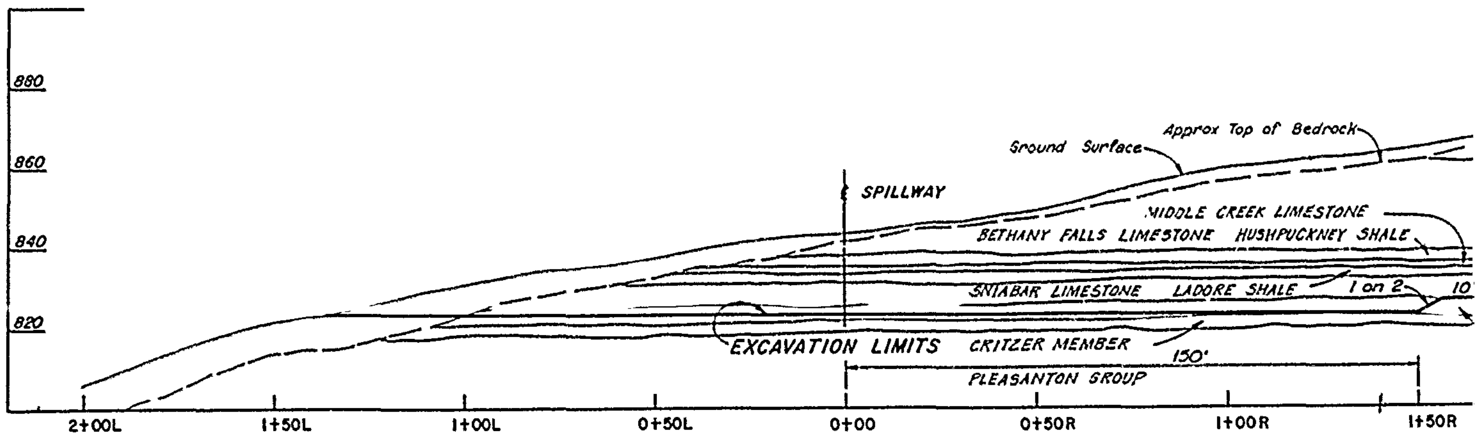
ELEVATION IN FEET BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929



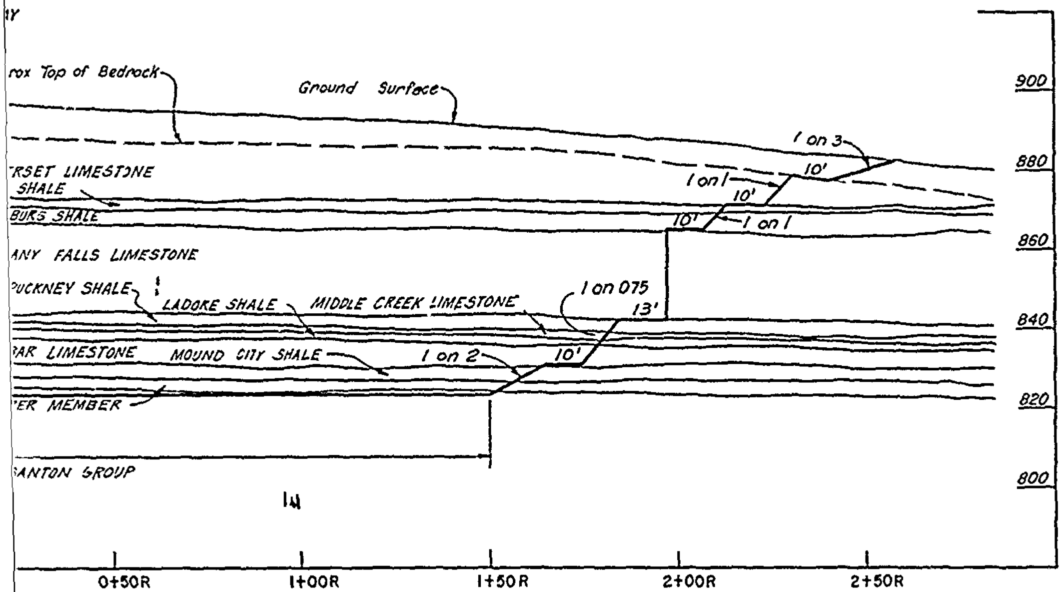
GEOLOGIC SECTION-SPILLWAY STA. 19+15 (D) E3|E12
(LOOKING DOWNSTREAM)



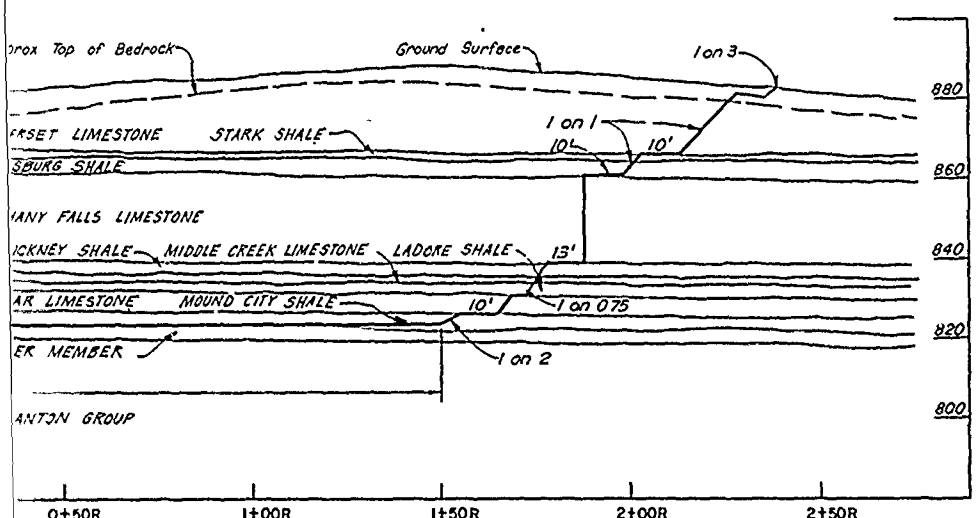
GEOLOGIC SECTION-SPILLWAY STA. 21+35 (E) E3|E12
(LOOKING DOWNSTREAM)



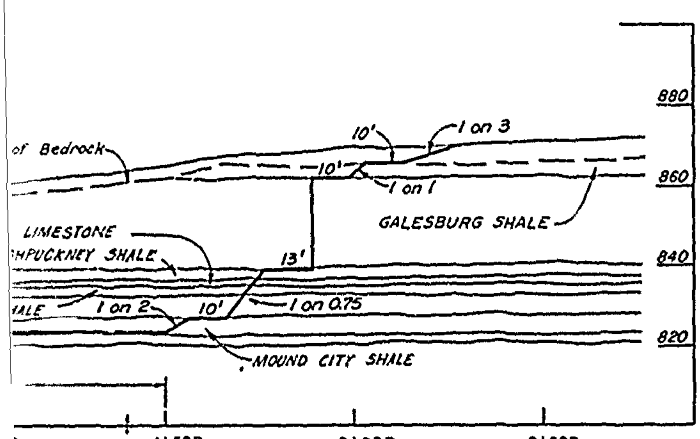
GEOLOGIC SECTION-SPILLWAY STA. 23+65 (F) E3|E12
(LOOKING DOWNSTREAM)



. 19+15 D
E3 | E12



35 E
E3 | E12



NOTES:
1. For general geologic column and legend see Dwg. E 1
2. For plan of spillway see Dwg. B7.
3. For location of Borings see Dwgs. E2 & E3.

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:

Drawn by:

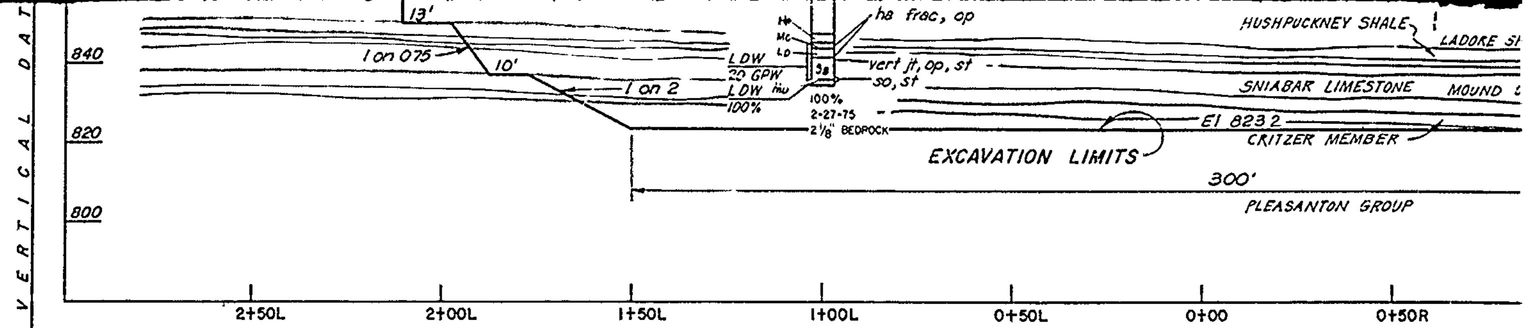
Checked by:

US Army Corps of Engineers

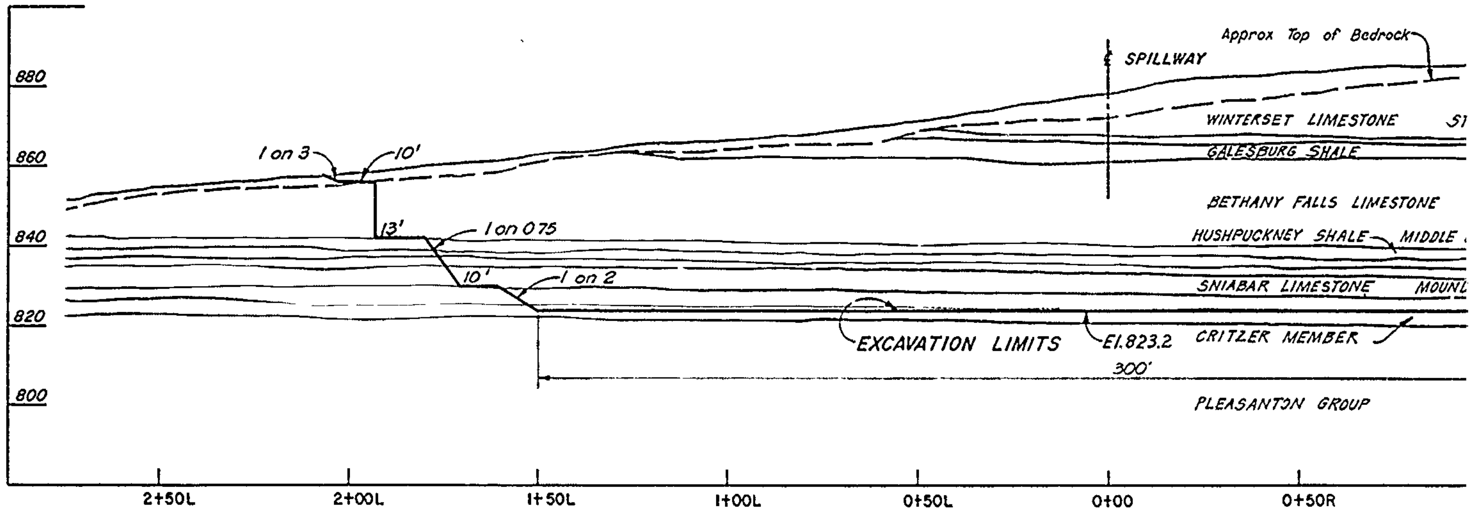
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

SPILLWAY SECTIONS,
GEOLOGY AND EXCAVATION LIMITS

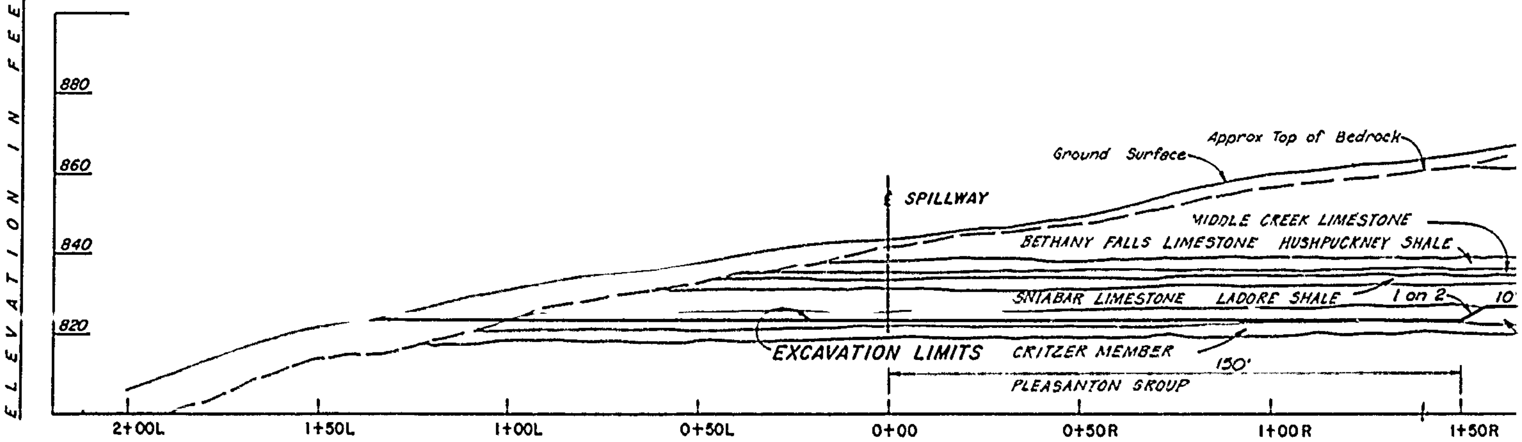
Scale: AS SHOWN
Sheet



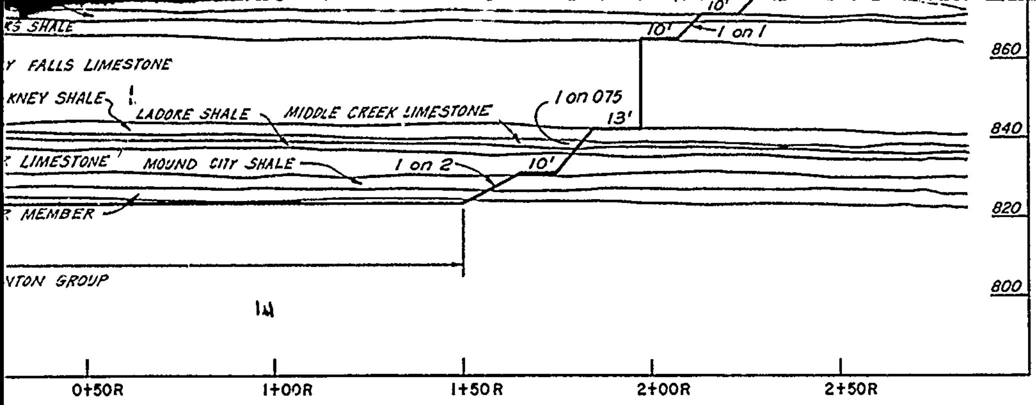
GEOLOGIC SECTION-SPILLWAY STA. 19+15 D E3 | E12
(LOOKING DOWNSTREAM)



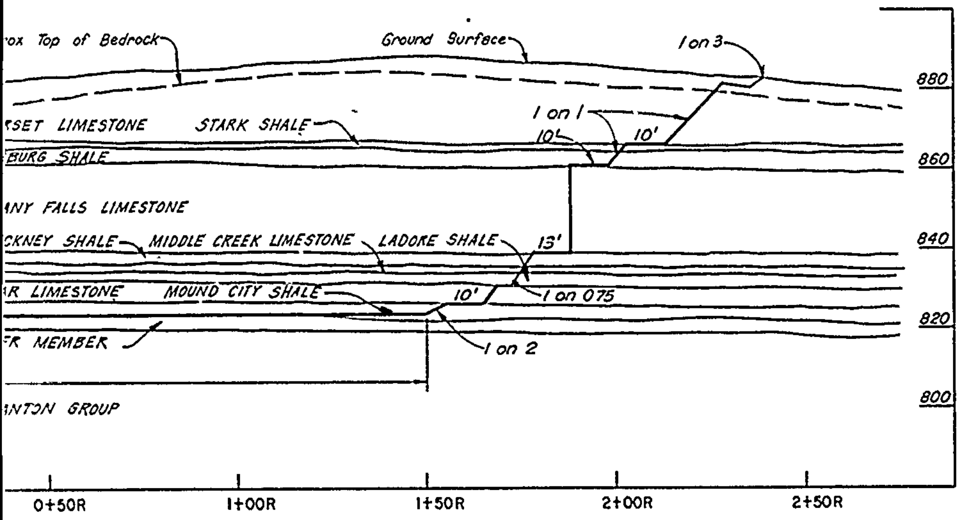
GEOLOGIC SECTION-SPILLWAY STA. 21+35 E E3 | E12
(LOOKING DOWNSTREAM)



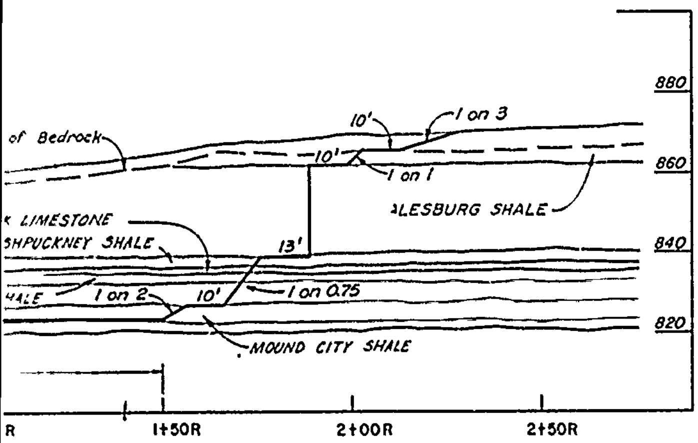
GEOLOGIC SECTION-SPILLWAY STA. 23+65 F E3 | E12
(LOOKING DOWNSTREAM)



19+15 D E3|E12



35 E E3|E12



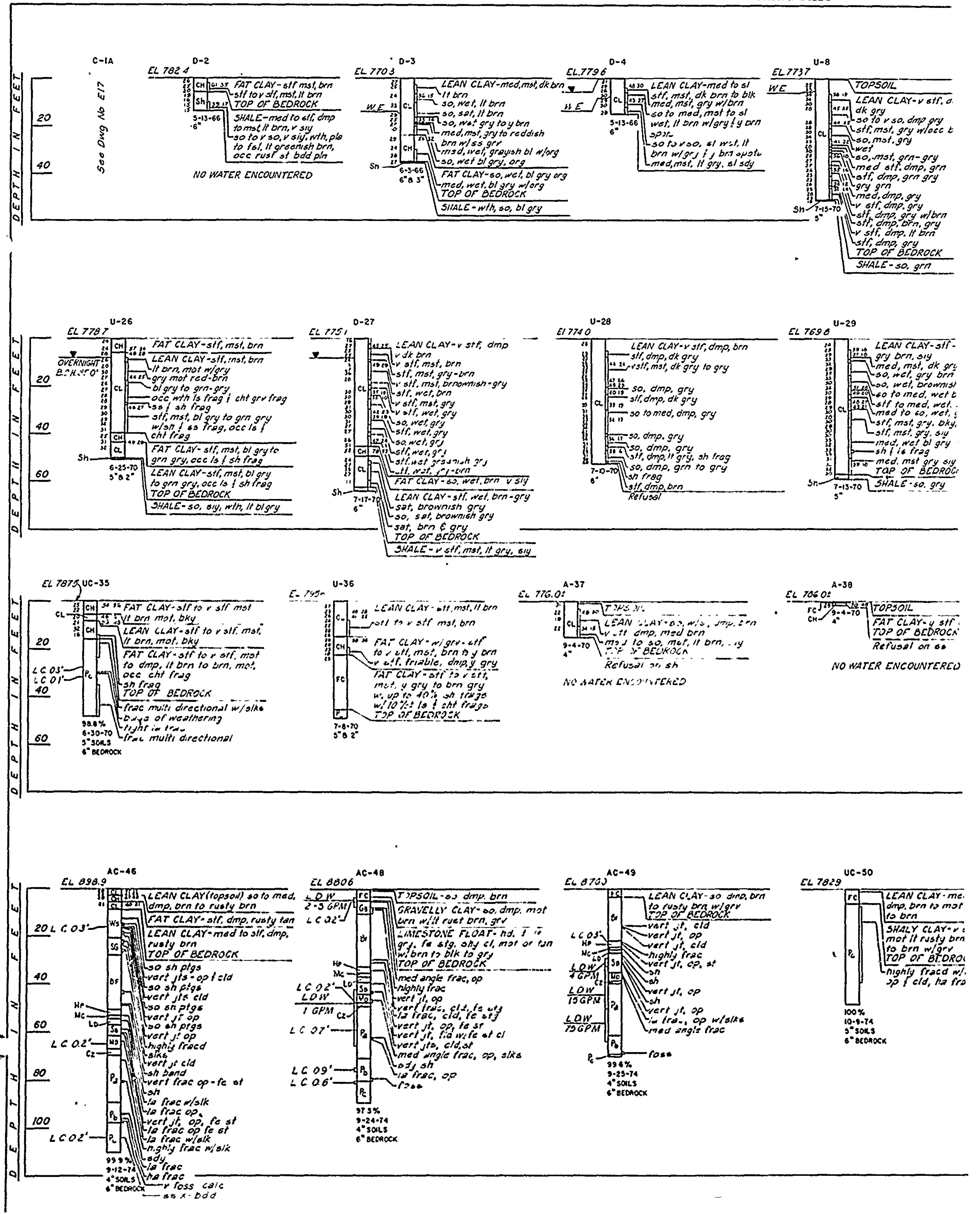
NOTES:
1. For general geologic column and legend see Dwg. E 1
2 For plan of spillway see Dwg B7.
3 For location of Borings see Dwgs E2 & E3.

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

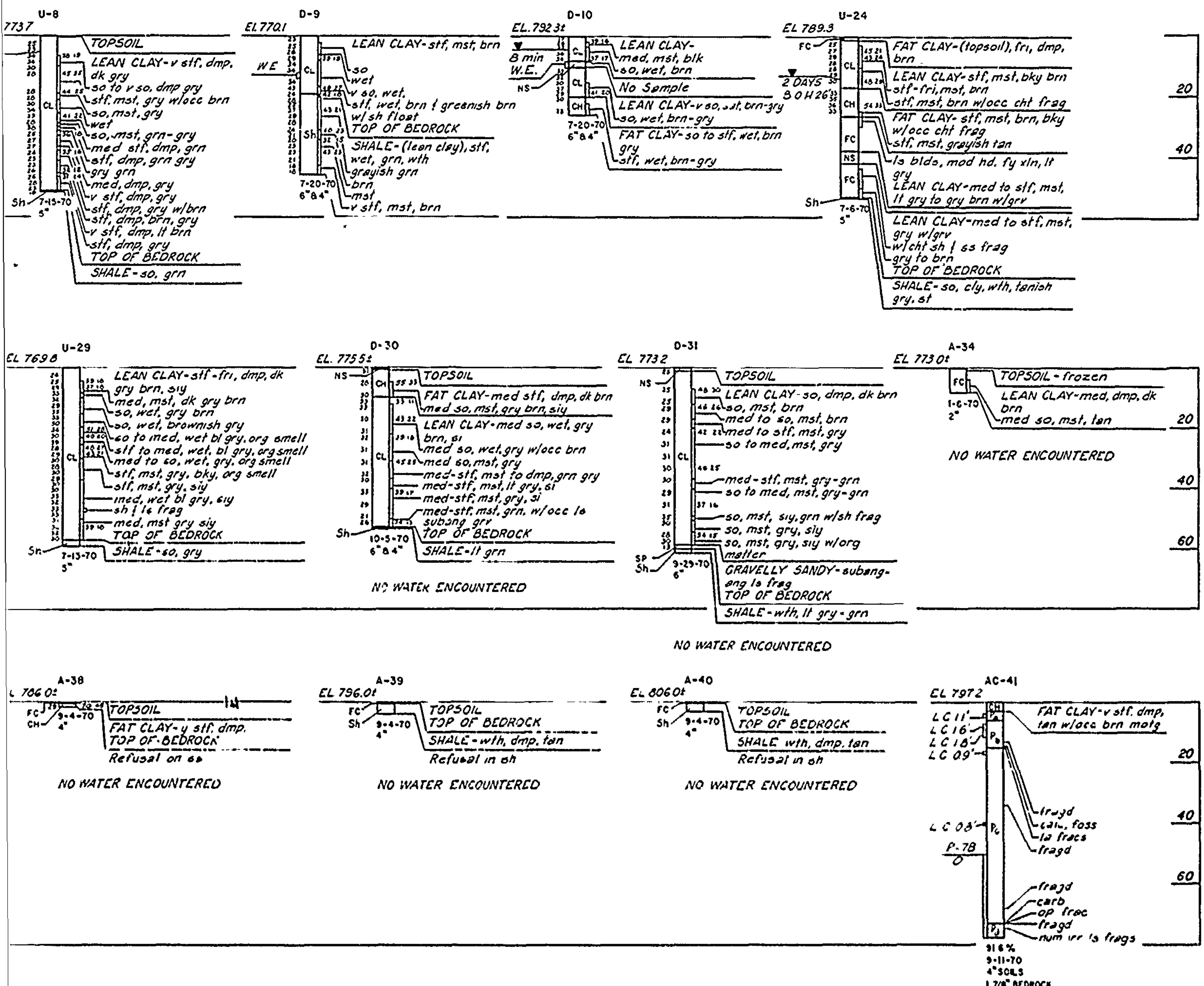
Designed by:	US Army Corps of Engineers — EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by:	SPILLWAY SECTIONS, GEOLOGY AND EXCAVATION LIMITS
Checked by:	Scale: AS SHOWN — Sheet number: 37
Submitted by:	Date: JUNE 1990 — Dwg. No.: — File No. RBL-2-1257

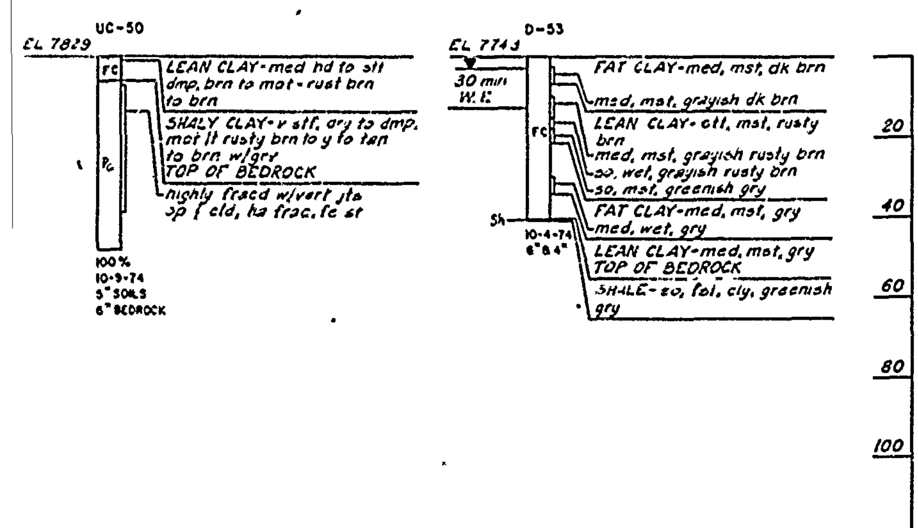
PLATE NO. 37



DEPTH IN FEET
C-1A
See Dwg No E17
D-2
EL 782.4
FAT CLAY-stf mst, brn
stf to v stf, mst, lt brn
TOP OF BEDROCK
SHALE-med to stf, dmp to mst, lt brn, v sly
so to v so, v sly, wth, pla to fsl, lt greenish brn, occ rust st bdd pln
5-13-66
6"
NO WATER ENCOUNTERED
D-3
EL 770.3
LEAN CLAY-med, mst, dk brn
lt brn
so, wet, lt brn
so, sat, lt brn
so, wet gry to y brn
med, mst, gry to reddish brn w/ ss grv
med, wet, grayish bl w/org
so, wet bl gry, org
FAT CLAY-so, wet, bl gry org
med, wet, bl gry w/org
TOP OF BEDROCK
SHALE-wth, so, bl gry
6-3-66
6" & 3"
D-4
EL 779.6
LEAN CLAY-med to sl stf, mst, dk brn to blk
med, mst, gry w/brn
so to med, mst to sl wet, lt brn w/gry & y brn spots
so to v so, sl wet, lt brn w/gry & y brn spots
med, mst, lt gry, sl sdy
5-13-66
6"
U-8
EL 773.7
TOPSOIL
LEAN CLAY-v stf, dk gry
so to v so, dmp gry
stf, mst, gry w/occ
so, mst, gry
wet
so, mst, grn-gry
med stf, dmp, grn
stf, dmp, grn gry
gry grn
med, dmp, gry
v stf, dmp, gry
stf, dmp, gry w/brn
stf, dmp, brn, gry
v stf, dmp, lt brn
stf, dmp, gry
TOP OF BEDROCK
SHALE-so, grn
7-15-70
5"
U-26
EL 778.7
OVERNIGHT
FAT CLAY-stf, mst, brn
LEAN CLAY-stf, mst, brn
lt brn, mot w/gry
gry mot red-brn
bl gry to grn-gry
occ wth ls frag & cht grv frag
ss & sh frag
stf, mst, bl gry to grn gry w/sh & ss frag, occ ls & cht frag
FAT CLAY-stf, mst, bl gry to grn gry, occ ls & sh frag
LEAN CLAY-stf, mst, bl gry to grn gry, occ ls & sh frag
TOP OF BEDROCK
SHALE-so, sly, wth, lt bl gry
6-25-70
5" & 2"
D-27
EL 775.1
LEAN CLAY-v stf, dmp
v dk brn
v stf, mst, brn
stf, mst, gry-brn
v stf, mst, brnownish-gry
stf, wet, brn
v stf, mst, gry
v stf, wet, gry
so, wet, gry
stf, wet, gry
so, wet, gry
stf, wet, gry
FAT CLAY-so, wet, brn v sly
LEAN CLAY-stf, wet, brn-gry
sat, brownish gry
so, sat, brownish gry
sat, brn & gry
TOP OF BEDROCK
SHALE-v stf, mst, lt gry, sly
7-17-70
6"
U-28
EL 774.0
LEAN CLAY-v stf, dmp, brn
stf, dmp, dk gry
v stf, mst, dk gry to gry
so, dmp, gry
stf, dmp, dk gry
so to med, dmp, gry
so, dmp, gry
so, dmp, gry
stf, dmp, lt gry, sh frag
so, dmp, grn to gry
sh frag
stf, dmp, brn
Refusal
7-10-70
6"
U-29
EL 769.8
LEAN CLAY-stf
gry brn, sly
med, mst, dk gry
so, wet, gry brn
so, wet, brownish
so to med, wet
stf to med, wet
med to so, wet
stf, mst, gry, bky
stf, mst, gry, sly
med, wet bl gry
sh & ls frag
med, mst gry sly
TOP OF BEDROCK
SHALE-so, gry
7-13-70
5"
EL 787.5
UC-35
FAT CLAY-stf to v stf mst lt brn mot, bky
LEAN CLAY-stf to v stf, mst, lt brn, mot, bky
FAT CLAY-stf to v stf, mst to dmp, lt brn to brn, mot, occ cht frag
sh frag
TOP OF BEDROCK
frac multi directional w/slks
bnds of weathering
frac multi directional
98.8%
6-30-70
5" SOILS
6" BEDROCK
U-36
LEAN CLAY-stf, mst, lt brn
stf to v stf mst, brn
FAT CLAY-w/grv-stf to v stf, mst, brn to y brn
v stf, friable, dmp, y gry
FAT CLAY-stf to v stf, mst, y gry to brn gry w/ up to 40% sh frags w/10% ls & cht frags
TOP OF BEDROCK
7-8-70
5" & 2"
A-37
EL 776.0±
TOPSOIL
LEAN CLAY
v stf dmp, med brn
med to so, mst, lt brn
TOP OF BEDROCK
Refusal on sh
9-4-70
4"
NO WATER ENCOUNTERED
A-38
EL 766.0±
TOPSOIL
FAT CLAY-v stf
TOP OF BEDROCK
Refusal on sh
9-4-70
4"
NO WATER ENCOUNTERED
AC-46
EL 898.9
LEAN CLAY(topsoil) so to med, dmp, brn to rusty brn
FAT CLAY-stf, dmp, rusty tan
LEAN CLAY-med to stf, dmp, rusty brn
TOP OF BEDROCK
so sh ptgs
vert jts-op & cld
so sh ptgs
vert jts cld
so sh ptgs
vert jt op
so sh ptgs
vert jt op
highly fracd
slks
vert jt cld
sh band
vert frac op-fe st
sh
la frac w/slk
la frac op
vert jt, op, fe st
la frac op fe st
la frac w/slk
highly frac w/slk
sdy
la frac
ha frac
v foss calc
ss x-bdd
99.9%
9-12-74
4" SOILS
6" BEDROCK
AC-48
EL 880.6
TOPSOIL-so dmp, brn
GRAVELLY CLAY-so, dmp, mot brn w/lt rust brn, grv
LIMESTONE FLOAT-hd
TOP OF BEDROCK
med angle frac, op
highly frac
vert jt, op
vert frac, cld, fe stg
la frac, cld, fe stg
vert jt, op, fe st
vert jts, cld, st
med angle frac, op, slks
sdy sh
la frac, op
foss
97.3%
9-24-74
4" SOILS
6" BEDROCK
AC-49
EL 874.0
LEAN CLAY-so dmp, brn to rusty brn w/grv
TOP OF BEDROCK
vert jt, cld
vert jt, op
vert jt, cld
highly frac
vert jt, op, st
sh
vert jt, op
sh
vert jt, op
la frac, op w/slks
med angle frac
foss
99.6%
9-25-74
4" SOILS
6" BEDROCK
UC-50
EL 782.9
LEAN CLAY-med, dmp, brn to mot to brn
SHALY CLAY-v stf, mot lt rusty brn to brn w/grv
TOP OF BEDROCK
highly fracd w/ op & cld, ha frac
100%
10-9-74
5" SOILS
6" BEDROCK

G PAYS





NOTES
1 For General Geologic Column and Legend, see Dwg E-1
2 For location of borings, see Dwgs. E-2, E-3, and E-4.

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

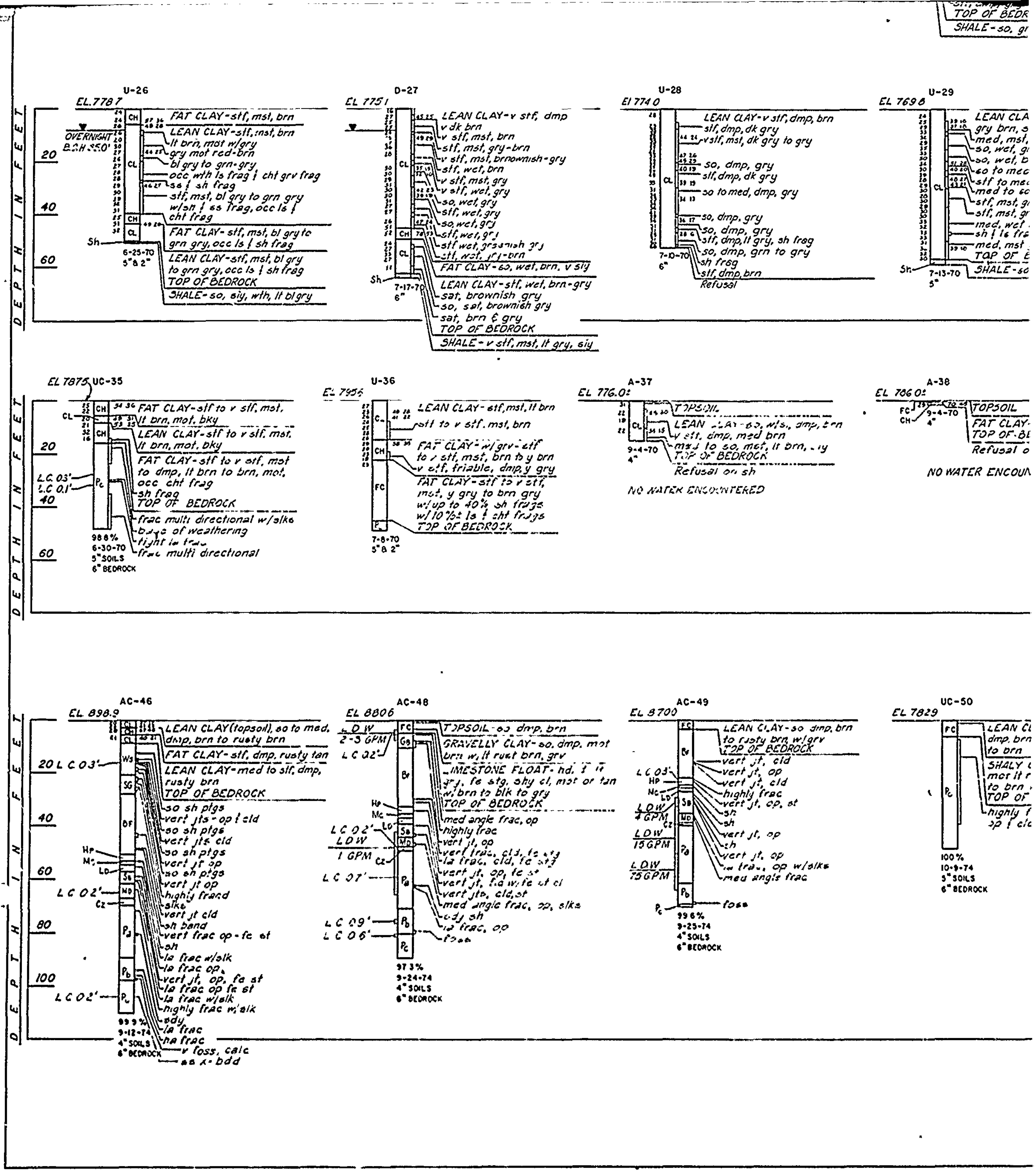
Designed by

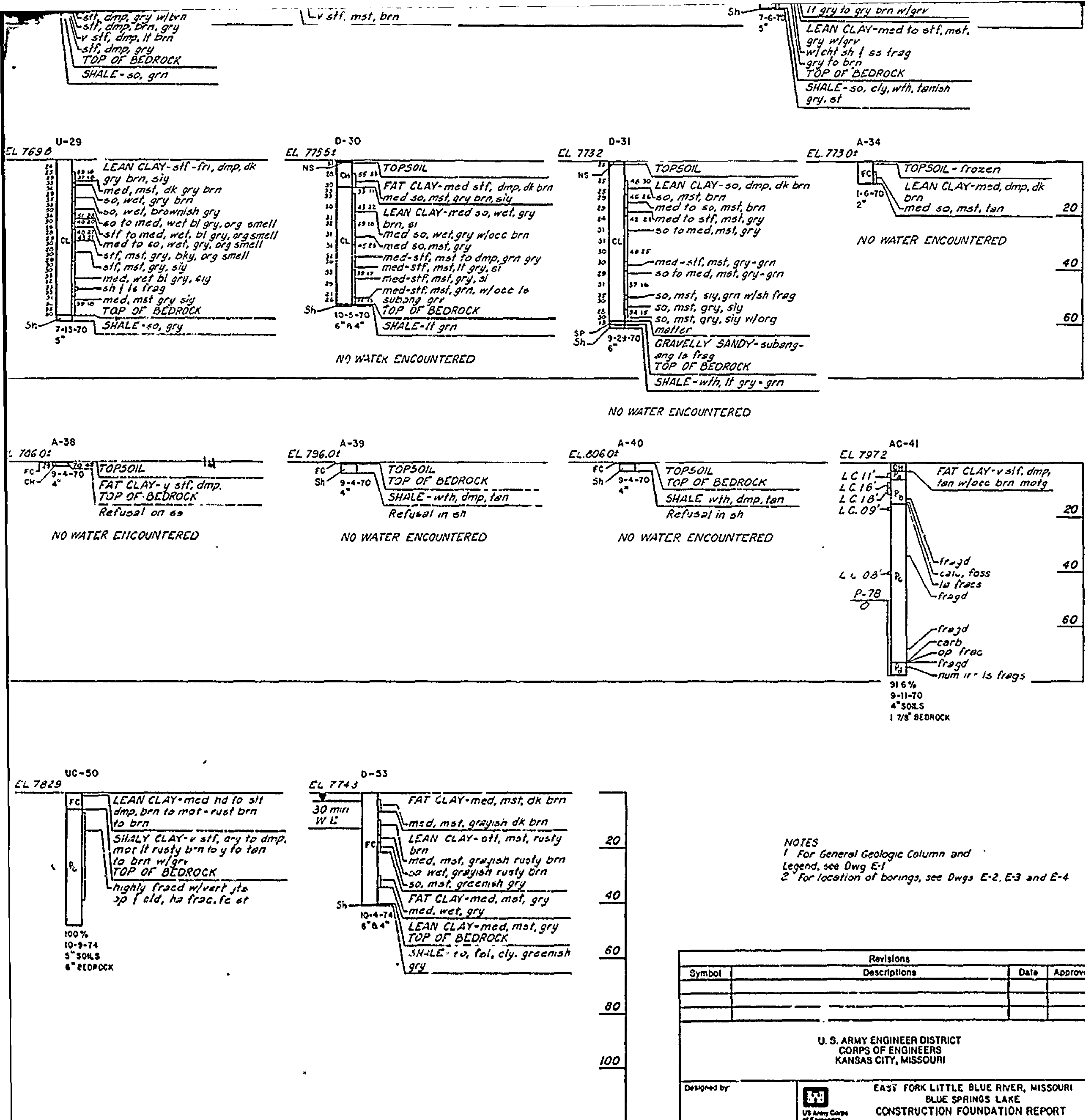
Drawn by

US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

LOGS OF DETACHED BORINGS

TOP OF BEDROCK
SHALE - so, gr
DEPTH IN FEET
20
40
60
U-26
EL 7787
OVERNIGHT
FAT CLAY - stf, mst, brn
LEAN CLAY - stf, mst, brn
lt brn, mot w/gry
gry mot red-brn
bl gry to grn-gry
occ wth ls frag & cht grv frag
ss & sh frag
stf, mst, bl gry to grn gry
w/sh & ss frag, occ ls & cht frag
FAT CLAY - stf, mst, bl gry to grn gry, occ ls & sh frag
LEAN CLAY - stf, mst, bl gry to grn gry, occ ls & sh frag
TOP OF BEDROCK
SHALE - so, siy, wth, lt bl gry
6-25-70
5" & 2"
D-27
EL 7751
LEAN CLAY - v stf, dmp
v dk brn
v stf, mst, brn
stf, mst, gry-brn
v stf, mst, brownish-gry
stf, wet, brn
v stf, mst, gry
v stf, wet, gry
so, wet, gry
stf, wet, gry
so, wet, gry
stf, wet, gry
stf wet, grayish gry
stf, wet, gry-brn
FAT CLAY - so, wet, brn, v siy
LEAN CLAY - stf, wet, brn-gry
sat, brownish gry
so, sat, brownish gry
sat, brn & gry
TOP OF BEDROCK
SHALE - v stf, mst, lt gry, siy
7-17-70
6"
U-28
EL 774.0
LEAN CLAY - v stf, dmp, brn
stf, dmp, dk gry
v stf, mst, dk gry to gry
so, dmp, gry
stf, dmp, dk gry
so to med, dmp, gry
so, dmp, gry
so, dmp, gry
stf, dmp, lt gry, sh frag
so, dmp, grn to gry
sh frag
stf, dmp, brn
Refusal
7-10-70
6"
U-29
EL 7698
LEAN CLA
gry brn
med, mst
so, wet, g
so, wet, b
so to med
stf to me
med to so
stf, mst, g
stf, mst, g
med, wet
sh & ls fr
med, mst
TOP OF B
SHALE - so
7-13-70
5"
EL 7875 UC-35
FAT CLAY - stf to v stf, mst, lt brn, mot, bky
LEAN CLAY - stf to v stf, mst, lt brn, mot, bky
FAT CLAY - stf to v stf, mst to dmp, lt brn to brn, mot, occ cht frag
sh frag
TOP OF BEDROCK
frac multi directional w/slks
base of weathering
tight ls frac
frac multi directional
LC 0.3'
LC 0.1'
98.8%
6-30-70
5" SOILS
6" BEDROCK
U-36
EL 7956
LEAN CLAY - stf, mst, lt brn
stf to v stf, mst, brn
FAT CLAY - w/grv - stf to v stf, mst, brn to y brn
v stf, friable, dmp, y gry
FAT CLAY - stf to v stf, mst, y gry to brn gry w/up to 40% sh frags w/10% ls & cht frags
TOP OF BEDROCK
7-8-70
5" & 2"
A-37
EL 776.0
TOPSOIL
LEAN CLAY - so, wls, dmp, brn
v stf, dmp, med brn
med to so, mst, lt brn, siy
TOP OF BEDROCK
Refusal on sh
9-4-70
4"
NO WATER ENCOUNTERED
A-38
EL 7860
9-4-70
4"
TOPSOIL
FAT CLAY
TOP OF BE
Refusal o
NO WATER ENCOUN
AC-46
EL 898.9
80
100
LEAN CLAY (topsoil), so to med, dmp, brn to rusty brn
FAT CLAY - stf, dmp, rusty tan
LEAN CLAY - med to stf, dmp, rusty brn
TOP OF BEDROCK
so sh ptgs
vert jts - op & cld
so sh ptgs
vert jts cld
so sh ptgs
vert jt op
so sh ptgs
vert jt op
highly fracd
slks
vert jt cld
sh band
vert frac op - fe st
sh
la frac w/slk
la frac op
vert jt, op, fe st
la frac op fe st
la frac w/slk
highly frac w/slk
sdy
la frac
ha frac
v foss, calc
ss x-bdd
20 LC 0.3'
LC 0.2'
LC 0.2'
99.9%
9-12-74
4" SOILS
6" BEDROCK
AC-48
EL 8806
LDW
2-3 GPM
LC 0.2'
LC 0.2'
LDW
1 GPM
LC 0.7'
LC 0.9'
LC 0.6'
TOPSOIL - so dmp, brn
GRAVELLY CLAY - so, dmp, mot brn w/lt rust brn, grv
LIMESTONE FLOAT - hd
TOP OF BEDROCK
med angle frac, op
highly frac
vert jt, op
vert jt, op, fe st
vert jts, cld, st
med angle frac, op, slks
sdy sh
la frac, op
foss
97.3%
9-24-74
4" SOILS
6" BEDROCK
AC-49
EL 8700
LEAN CLAY - so dmp, brn to rusty brn w/grv
TOP OF BEDROCK
vert jt, cld
vert jt, op
vert jt, cld
highly frac
vert jt, op, st
sh
sh
vert jt, op
sh
vert jt, op
la frac, op w/slks
med angle frac
foss
LC 0.3'
LDW
4 GPM
LDW
15 GPM
LDW
15 GPM
99.6%
9-25-74
4" SOILS
6" BEDROCK
UC-50
EL 7829
LEAN C
dmp, brn
to brn
SHALY
TOP OF
highly f
op & cl
100%
10-9-74
5" SOILS
6" BEDROCK



NOTES
1 For General Geologic Column and Legend, see Dwg E-1
2 For location of borings, see Dwgs E-2, E-3 and E-4

Symbol	Descriptions	Date	Approved

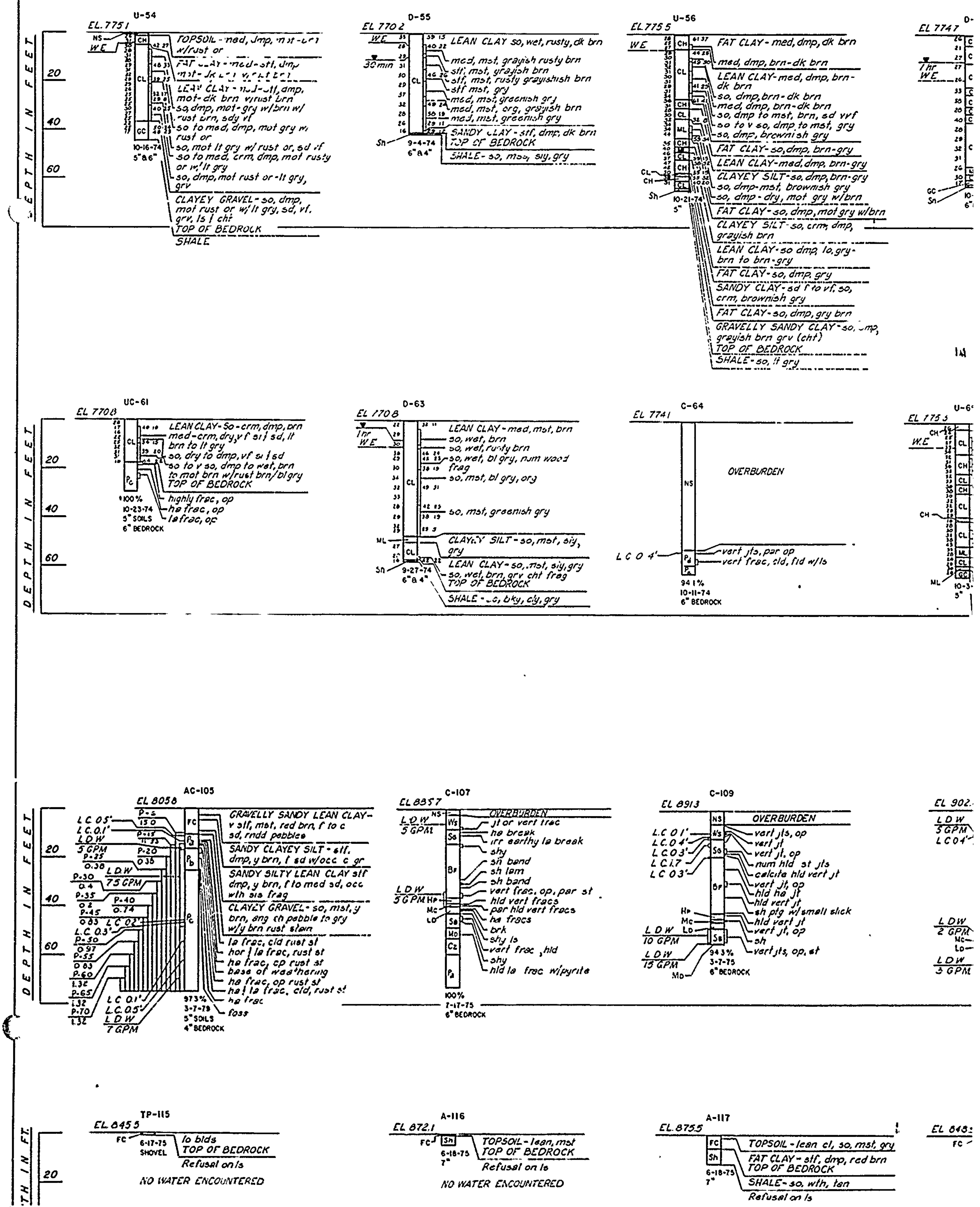
U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

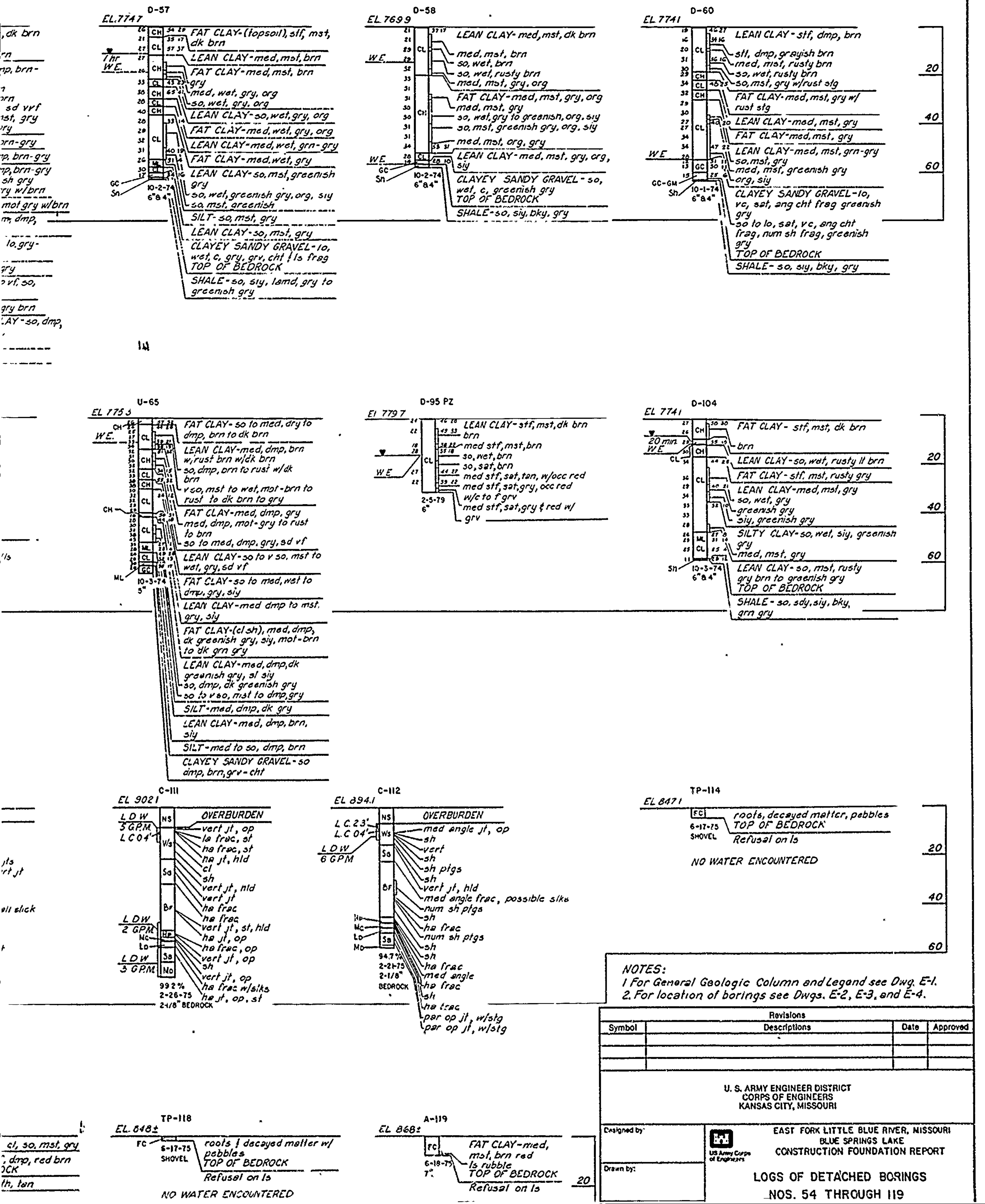
LOGS OF DETACHED BORINGS
NOS. 2 THROUGH 53

Designed by:
Drawn by:
Checked by:
Submitted by:
Scale: AS SHOWN
Date: JUNE 1990
Sheet number: 38
Dwg. No.:
File No. RBL-2-1258

PLATE NO. 38


DEPTH IN FEET
20
40
60
U-54
EL. 7751
TOPSOIL - med, dmp
CLAYEY GRAVEL - so, dmp, mot rust or w/ lt gry, sd, vf, grv, ls & cht
TOP OF BEDROCK
SHALE
10-16-74
D-55
EL 7702
LEAN CLAY so, wet, rusty, dk brn
med, mst, grayish rusty brn
stf, mst, grayish brn
stf, mst, rusty grayishish brn
stf mst, gry
med, mst, greenish gry
med, mst, org, grayish brn
med, mst, greenish gry
SANDY CLAY - stf, dmp, dk brn
TOP OF BEDROCK
SHALE - so, mst, sly, gry
9-4-74
U-56
EL 7755
FAT CLAY - med, dmp, dk brn
med, dmp, brn-dk brn
LEAN CLAY - med, dmp, brn-dk brn
so, dmp, brn-dk brn
med, dmp, brn-dk brn
so, dmp to mst, brn, sd vvf
so to v so, dmp to mst, gry
so, dmp, brownish gry
FAT CLAY - so, dmp, brn-gry
LEAN CLAY - med, dmp, brn-gry
CLAYEY SILT - so, dmp, brn-gry
so, dmp-mst, brownish gry
so, dmp-dry, mot gry w/brn
FAT CLAY - so, dmp, mot gry w/brn
CLAYEY SILT - so, crm, dmp, grayish brn
LEAN CLAY - so dmp, lo, gry-brn to brn-gry
FAT CLAY - so, dmp, gry
SANDY CLAY - sd f to vf, so, crm, brownish gry
FAT CLAY - so, dmp, gry brn
GRAVELLY SANDY CLAY - so, dmp, grayish brn grv (cht)
TOP OF BEDROCK
SHALE - so, lt gry
10-21-74
UC-61
EL 7708
LEAN CLAY - So - crm, dmp, brn
TOP OF BEDROCK
highly frac, op
hz frac, op
lz frac, op
100%
10-23-74
5" SOILS
6" BEDROCK
D-63
EL 7708
LEAN CLAY - med, mst, brn
so, wet, brn
so, wet, rusty brn
so, wet, bl gry, num wood frag
so, mst, bl gry, org
so, mst, greenish gry
CLAYEY SILT - so, mst, sly, gry
LEAN CLAY - so, mst, sly, gry
so, wet, brn, grv cht frag
TOP OF BEDROCK
SHALE - so, bky, cly, gry
9-27-74
C-64
EL 7741
OVERBURDEN
L C 0 4'
vert jts, par op
vert frac, cld, fld w/ls
94 1%
10-11-74
6" BEDROCK
AC-105
EL 8058
GRAVELLY SANDY LEAN CLAY - v stf, mst, red brn, f to c sd, rndd pebbles
SANDY CLAYEY SILT - stf, dmp, y brn, f sd w/occ c gr
SANDY SILTY LEAN CLAY stf dmp, y brn, f to med sd, occ wth sts frag
CLAYEY GRAVEL - so, mst, y brn, ang ch pebble to gry w/y brn rust stain
la frac, cld rust st
hor & la frac, rust st
ha frac, op rust st
base of weathering
ha frac, op rust st
ha & la frac, cld, rust st
ha frac
foss
97.3%
5" SOILS
4" BEDROCK
L D W
7 GPM
C-107
EL 8357
OVERBURDEN
jt or vert frac
ha break
irr earthy la break
shy
sh band
sh lam
sh band
vert frac, op, par st
hld vert fracs
par hld vert fracs
ha fracs
brk
shy ls
vert frac, hld
shy
hld la frac w/pyrite
100%
7-17-75
6" BEDROCK
L D W
5 GPM
C-109
EL 8913
OVERBURDEN
vert jts, op
vert jt
vert jt, op
num hld st jts
calcite hld vert jt
vert jt, op
hld ha jt
hld vert jt
sh ptg w/small slick
hld vert jt
vert jt, op
sh
vert jts, op, st
94.3%
3-7-75
6" BEDROCK
L D W
10 GPM
L D W
15 GPM
TP-115
EL 8455
6-17-75
SHOVEL
lo blds
TOP OF BEDROCK
Refusal on ls
NO WATER ENCOUNTERED
A-116
EL 872.1
6-18-75
TOPSOIL - lean, mst
TOP OF BEDROCK
Refusal on ls
NO WATER ENCOUNTERED
A-117
EL 8755
TOPSOIL - lean cl, so, mst, gry
FAT CLAY - stf, dmp, red brn
TOP OF BEDROCK
SHALE - so, wth, tan
Refusal on ls
6-18-75

ERING PAYS



NOTES:
1. For General Geologic Column and Legend see Dwg. E-1.
2. For location of borings see Dwgs. E-2, E-3, and E-4.

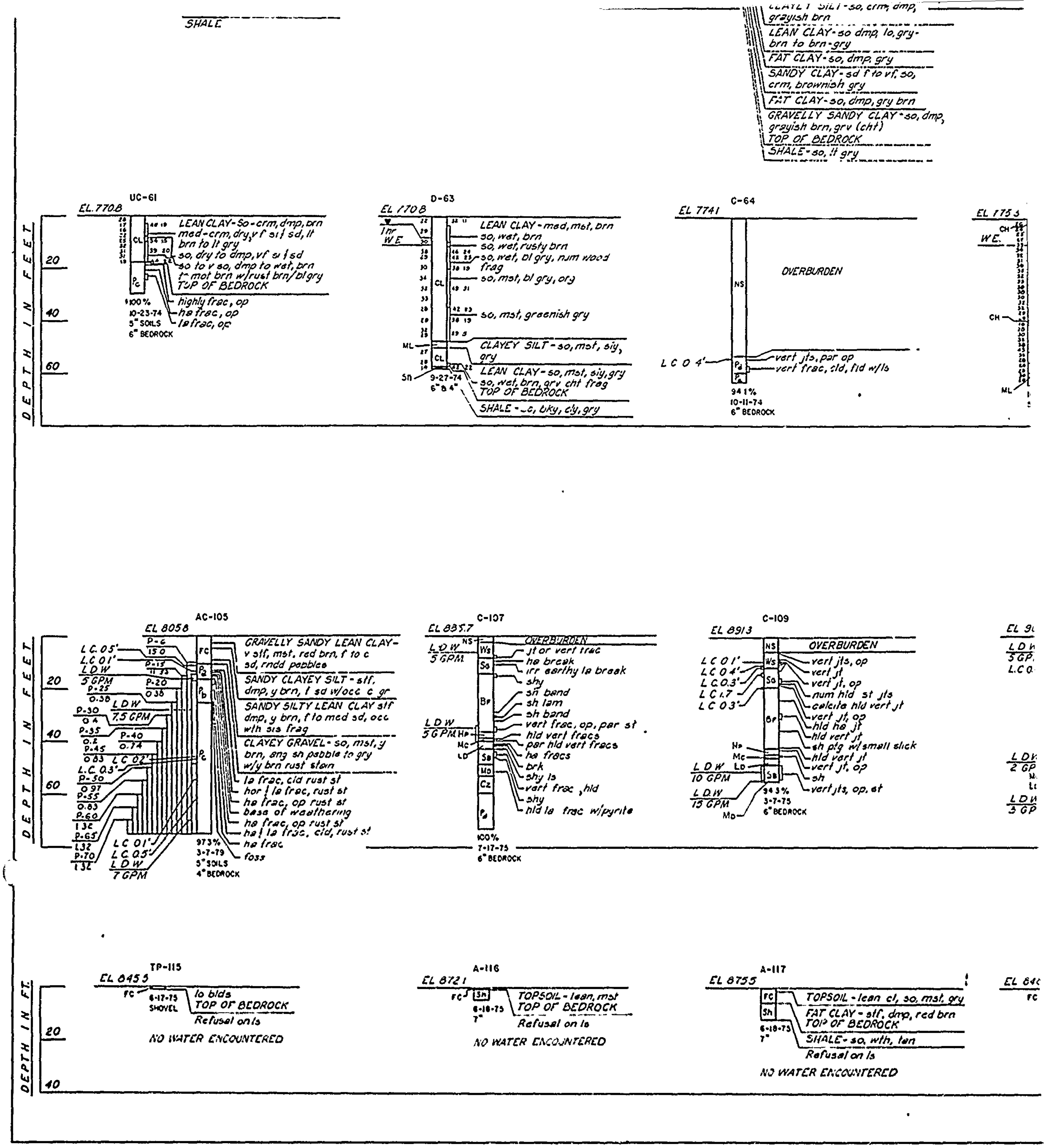
Revisions			
Symbol	Descriptions	Date	Approved

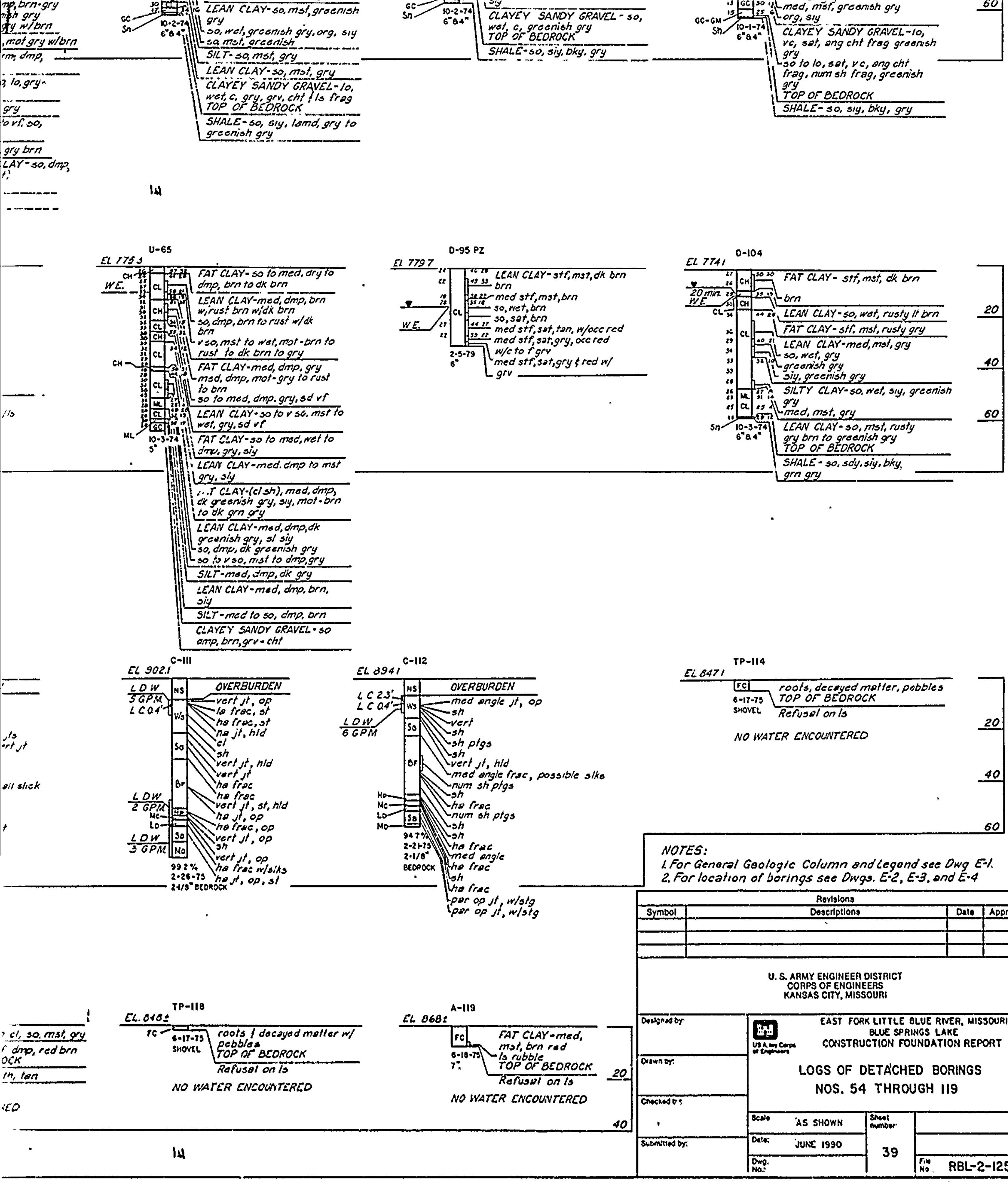
U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:
Drawn by:

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

LOGS OF DETACHED BORINGS
NOS. 54 THROUGH 119


SHALE
CLAYEY SILT - so, crm, dmp, grayish brn
LEAN CLAY - so dmp, lo, gry-brn to brn-gry
FAT CLAY - so, dmp, gry
SANDY CLAY - sd f to vf, so, crm, brownish gry
FAT CLAY - so, dmp, gry brn
GRAVELLY SANDY CLAY - so, dmp, grayish brn, grv (cht)
TOP OF BEDROCK
SHALE - so, lt gry
DEPTH IN FEET
UC-61
EL 770.8
LEAN CLAY - So - crm, dmp, brn
med-crm, dry, v f si / sd, lt brn to lt gry
so, dry to dmp, vf si / sd
so to v so, dmp to wet, brn to mot brn w/rust brn/bl gry
TOP OF BEDROCK
highly frac, op
ha frac, op
la frac, op
100%
10-23-74
5" SOILS
6" BEDROCK
D-63
EL 770.8
W.E.
LEAN CLAY - med, mst, brn
so, wet, brn
so, wet, rusty brn
so, wet, bl gry, num wood frag
so, mst, bl gry, org
so, mst, greenish gry
CLAYEY SILT - so, mst, siy, gry
LEAN CLAY - so, mst, siy, gry
so, wet, brn, grv cht frag
TOP OF BEDROCK
SHALE - so, bky, cly, gry
9-27-74
6" & 4"
C-64
EL 774.1
OVERBURDEN
L C O 4'
vert jts, par op
vert frac, cld, fld w/ls
94.1%
10-11-74
6" BEDROCK
EL 775.3
W.E.
AC-105
EL 805.8
GRAVELLY SANDY LEAN CLAY - v stf, mst, red brn, f to c sd, rndd pebbles
SANDY CLAYEY SILT - stf, dmp, y brn, f sd w/occ c gr
SANDY SILTY LEAN CLAY stf dmp, y brn, f to med sd, occ wth sis frag
CLAYEY GRAVEL - so, mst, y brn, ang sh pebble to gry w/y brn rust stain
la frac, cld rust st
hor & la frac, rust st
ha frac, op rust st
base of weathering
ha frac, op rust st
ha & la frac, cld, rust st
ha frac
foss
L.C. 0.5'
L.C. 0.1'
L D W
5 GPM
7.5 GPM
L C 0.2'
L.C. 0.3'
L C 0.1'
L C 0.5'
L D W
7 GPM
97.3%
3-7-75
5" SOILS
4" BEDROCK
C-107
EL 885.7
L D W
5 GPM
OVERBURDEN
jt or vert frac
ha break
irr earthy la break
shy
sh band
sh lam
sh band
vert frac, op, par st
hld vert fracs
par hld vert fracs
ha fracs
brk
shy ls
vert frac, hld
shy
hld la frac w/pyrite
100%
7-17-75
6" BEDROCK
C-109
EL 891.3
OVERBURDEN
L C 0.1'
L C 0.4'
L C 0.3'
L C 1.7
L C 0.3'
vert jts, op
vert jt
vert jt, op
num hld st jts
calcite hld vert jt
vert jt, op
hld ha jt
hld vert jt
sh ptg w/small slick
hld vert jt
vert jt, op
sh
vert jts, op, st
L D W
10 GPM
L D W
15 GPM
94.3%
3-7-75
6" BEDROCK
DEPTH IN FT.
TP-115
EL 845.5
6-17-75
SHOVEL
lo blds
TOP OF BEDROCK
Refusal on ls
NO WATER ENCOUNTERED
A-116
EL 872.1
6-18-75
7"
TOPSOIL - lean, mst
TOP OF BEDROCK
Refusal on ls
NO WATER ENCOUNTERED
A-117
EL 875.5
6-18-75
7"
TOPSOIL - lean cl, so, mst, gry
FAT CLAY - stf, dmp, red brn
TOP OF BEDROCK
SHALE - so, wth, tan
Refusal on ls
NO WATER ENCOUNTERED



NOTES:
1. For General Geologic Column and Legend see Dwg E-1.
2. For location of borings see Dwgs. E-2, E-3, and E-4

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

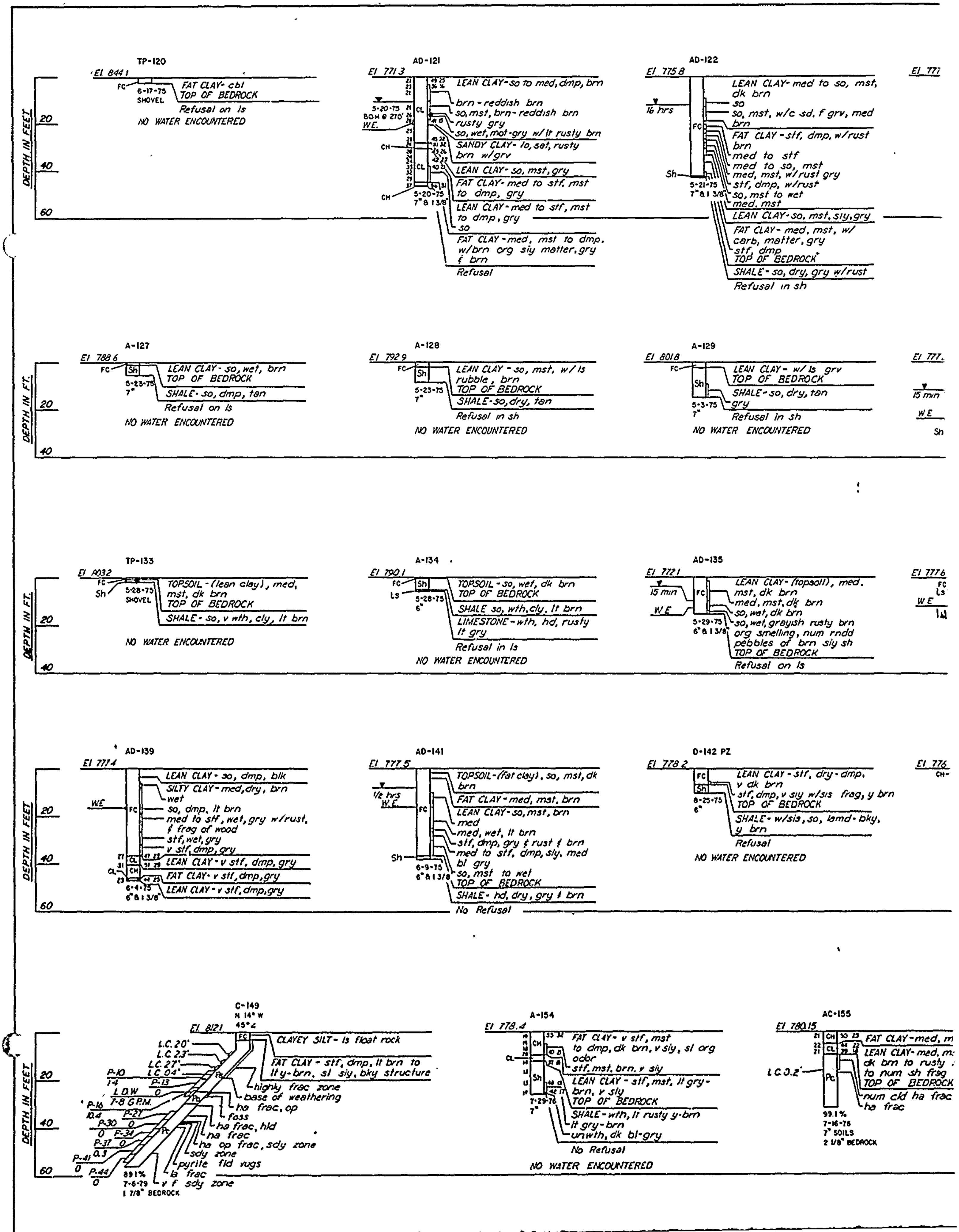
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

LOGS OF DETACHED BORINGS
NOS. 54 THROUGH 119

Designed by:
Drawn by:
Checked by:
Submitted by:

Scale: AS SHOWN
Date: JUNE 1990
Sheet number: 39
Dwg. No.:
File No. RBL-2-1259

PLATE NO. 39


TP-120
El 844.1
FC
6-17-75
SHOVEL
FAT CLAY- cbl
TOP OF BEDROCK
Refusal on ls
NO WATER ENCOUNTERED
DEPTH IN FEET
20
40
60
AD-121
El 771.3
5-20-75
BOH @ 270'
W.E.
CH
CL
LEAN CLAY-so to med, dmp, brn
brn - reddish brn
so, mst, brn - reddish brn
rusty gry
so, wet, mot-gry w/ lt rusty brn
SANDY CLAY- lo, sat, rusty brn w/gry
LEAN CLAY- so, mst, gry
FAT CLAY- med to stf, mst to dmp, gry
5-20-75
7" & 1 3/8"
LEAN CLAY- med to stf, mst to dmp, gry
so
FAT CLAY- med, mst to dmp, w/brn org siy matter, gry & brn
Refusal
AD-122
El 775.8
16 hrs
FC
Sh
LEAN CLAY- med to so, mst, dk brn
so
so, mst, w/c sd, f grv, med brn
FAT CLAY- stf, dmp, w/rust brn
med to stf
med to so, mst
med, mst, w/rust gry
stf, dmp, w/rust
5-21-75
7" & 1 3/8"
so, mst to wet
med, mst
LEAN CLAY- so, mst, siy, gry
FAT CLAY- med, mst, w/ carb, matter, gry
stf, dmp
TOP OF BEDROCK
SHALE- so, dry, gry w/rust
Refusal in sh
El 777
A-127
El 788.6
FC
Sh
5-23-75
7"
LEAN CLAY- so, wet, brn
TOP OF BEDROCK
SHALE- so, dmp, tan
Refusal on ls
NO WATER ENCOUNTERED
DEPTH IN FT.
20
40
A-128
El 792.9
FC
Sh
5-23-75
7"
LEAN CLAY - so, mst, w/ ls rubble, brn
TOP OF BEDROCK
SHALE- so, dry, tan
Refusal in sh
NO WATER ENCOUNTERED
A-129
El 801.8
FC
Sh
5-3-75
7"
LEAN CLAY- w/ ls grv
TOP OF BEDROCK
SHALE- so, dry, tan
gry
Refusal in sh
NO WATER ENCOUNTERED
El 777.
15 min
W.E.
Sh
TP-133
El 803.2
FC
Sh
5-28-75
SHOVEL
TOPSOIL - (lean clay), med, mst, dk brn
TOP OF BEDROCK
SHALE- so, v wth, cly, lt brn
NO WATER ENCOUNTERED
DEPTH IN FT.
20
40
A-134
El 790.1
FC
Ls
Sh
5-28-75
6"
TOPSOIL - so, wet, dk brn
TOP OF BEDROCK
SHALE so, wth, cly, lt brn
LIMESTONE - wth, hd, rusty lt gry
Refusal in ls
NO WATER ENCOUNTERED
AD-135
El 772.1
15 min
W.E.
FC
5-29-75
6" & 1 3/8"
LEAN CLAY- (topsoil), med, mst, dk brn
med, mst, dk brn
so, wet, dk brn
so, wet, grayish rusty brn org smelling, num rndd pebbles of brn siy sh
TOP OF BEDROCK
Refusal on ls
El 777.6
FC
Ls
W.E.
AD-139
El 777.4
W.E.
FC
CL
CH
6-4-75
6" & 1 3/8"
LEAN CLAY - so, dmp, blk
SILTY CLAY- med, dry, brn
wet
so, dmp, lt brn
med to stf, wet, gry w/rust, & frag of wood
stf, wet, gry
v stf, dmp, gry
LEAN CLAY - v stf, dmp, gry
FAT CLAY - v stf, dmp, gry
LEAN CLAY - v stf, dmp, gry
DEPTH IN FEET
20
40
60
AD-141
El 777.5
1/2 hrs
W.E.
FC
Sh
6-9-75
6" & 1 3/8"
TOPSOIL- (fat clay), so, mst, dk brn
FAT CLAY - med, mst, brn
LEAN CLAY- so, mst, brn
med
med, wet, lt brn
stf, dmp, gry & rust & brn
med to stf, dmp, sly, med bl gry
so, mst to wet
TOP OF BEDROCK
SHALE- hd, dry, gry & brn
No Refusal
D-142 PZ
El 778.2
FC
Sh
6-25-75
6"
LEAN CLAY - stf, dry - dmp, v dk brn
stf, dmp, v siy w/sls frag, y brn
TOP OF BEDROCK
SHALE- w/sls, so, lamd - bky, y brn
Refusal
NO WATER ENCOUNTERED
El 776
CH
C-149
N 14° W
45°
El 812.1
FC
Pc
L.C. 2.0'
L.C. 2.3'
L.C. 2.7'
L.C. 0.4'
P-10
1.4
P-13
L.D.W.
7-8 G.P.M.
0
P-16
10.4
P-21
P-30
0
P-34
0
P-37
0
0.3
P-41
0
P-44
0
89.1%
7-6-79
1 7/8" BEDROCK
CLAYEY SILT- ls float rock
FAT CLAY - stf, dmp, lt brn to lt y-brn, sl siy, bky structure
highly frac zone
base of weathering
ha frac, op
foss
ha frac, hld
ha frac
ha op frac, sdy zone
sdy zone
pyrite fld vugs
la frac
v f sdy zone
DEPTH IN FEET
20
40
60
A-154
El 778.4
CH
CL
Sh
7-29-76
7"
FAT CLAY- v stf, mst to dmp, dk brn, v siy, sl org odor
stf, mst, brn, v siy
LEAN CLAY - stf, mst, lt gry-brn, v siy
TOP OF BEDROCK
SHALE- wth, lt rusty y-brn
lt gry-brn
unwth, dk bl-gry
No Refusal
NO WATER ENCOUNTERED
AC-155
El 780.15
CH
CL
Pc
L.C. 0.2'
99.1%
7-16-76
7" SOILS
2 1/8" BEDROCK
FAT CLAY-med, m
LEAN CLAY- med, m
dk brn to rusty
to num sh frag
TOP OF BEDROCK
num cld ha frac
ha frac

AYS

med to so, mst,
sd, f grv, med
lf, dmp, w/rust
f
, mst
/rust gry
/rust
et
so, mst, siy, gry
ed, mst, w/
r, gry
ROCK
ry, gry w/rust
sh

A-123

El 777.6

- FC
- LEAN CLAY- med, mst, dk gry
- brn
- so, mst, brn
- f grv
- Sh
- TOP OF BEDROCK
- SHALE- so, dry, wth, tan
- 5-22-75 7"
- Refusal in sh

NO WATER ENCOUNTERED

A-125

El 796.8

- FC 50
- Sh 58 33
- LEAN CLAY- med, dmp, brn
- TOP OF BEDROCK
- 5-22-75 7"
- SHALE- so, tan
- Refusal on ls

NO WATER ENCOUNTERED

A-126

El 816.32

- FC
- LEAN CLAY- & ls rubble
- TOP OF BEDROCK
- Sh
- SHALE- so, wth, gry
- tan
- gry
- 5-22-75 7"
- Refusal on ls

NO WATER ENCOUNTERED

20
40
60

w/ ls grv
ROCK
y, tan
h
ED

AD-130

El 777.2

- LEAN CLAY- med, mst, dk gry
- 15 min
- FC
- dk brn
- brn
- med, mst, rusty brn w/occ
- W E
- gry
- Sh
- med, mst, rusty brn, org smell
- med, mst, gry, org smell
- 5-27-75 6" & 1 3/8"
- TOP OF BEDROCK
- SHALE- so, siy, wth, non-calc, grayish brn
- Refusal

A-131

El 795.8

- FC
- LEAN CLAY- med, mst, dk brn
- Sh
- med, mst, brn
- 5-27-75 6"
- TOP OF BEDROCK
- SHALE- so, cly, non-calc, v wth, brn
- so, cly, non-calc, unwth gry
- No Refusal

NO WATER ENCOUNTERED

TP-132

El 815.2

- W E FC
- Sh
- 5-28-75 SHOVEL
- TOPSOIL- (lean clay), so, wet, dk brn
- LEAN CLAY- med, mst brn w/num ls cbl
- TOP OF BEDROCK
- SHALE- so non-calc, cly, lt brn

20
40

psoil), med.
brn
rusty brn
num rndd
brn siy sh
CK

TP-136

El 777.6

- FC
- Ls
- W E
- 5-30-75 SHOVEL
- TOPSOIL- (fat clay), med, mst, dk brn
- TOP OF BEDROCK
- LIMESTONE- v wth, med xln, thin bdd, grayish rusty lt brn (solution jt)
- Refusal

AD-137

El 772.5

- 15 min
- LEAN CLAY- so, mst, dk brn
- W E.
- FC
- so, wet, brn
- v so, wet, org smell, rusty brn
- FAT CLAY- stf, mst, rusty brn w/gry & grn, num rndd pebble size sh frag
- Sh
- 6-2-75 6" & 1 3/8"
- stf, mst, lt brn
- TOP OF BEDROCK
- SHALE- so, pla, siy, rusty gry

AD-138

El 772.4

- 10 min
- W E.
- FC
- LEAN CLAY- so, mst brn.
- lt brn
- SILTY CLAY- v so, dmp, lt brn
- Sh
- sat
- 6-4-75 7" & 1 3/8"
- TOP OF BEDROCK
- SHALE med, dmp, tan
- Refusal in sh

20
40

dry - dmp.
w/sis frag, y brn
CK
so, lamd- bky,

DC-143 PZ, A

El 776.5

- CH
- FAT CLAY- stf to v stf, dry, brn to dk gry-brn
- LEAN CLAY- v stf, dmp, red brn & gry
- CL
- stf, dry, red brn & tan
- stf to med, dmp to mst, red brn & gry to lt gry w/rust mod
- stf, dmp, v siy, w/sis frag, red tan
- Pc
- med to so, dmp to mst, v siy, lt bl gry w/rust to bl grn
- v stf, dmp, w/num sis frag, red-y brn, wth sh
- 100% 8-25-75 6" SOILS 6" BEDROCK
- TOP OF BEDROCK
- ha jt st
- hld, la jt, st
- vert jt
- la jt, op, st
- vert jt, op
- num multi directional jts, op

D-144

El 772.0

- 15 min
- W E
- Sh
- FC
- TOPSOIL- (lean clay), dry, brn, siy
- LEAN CLAY- fm, mst, brn, siy
- fm, dmp
- so, mst, brn
- 9-4-75 6"
- v so, wet, brn, siy, occ lt gry streaks & dk brn streaks, sdy at base
- TOP OF BEDROCK
- SHALE- fm, tan w/ lt gry streaks

D-153

El 772.0

- FC
- TOPSOIL- fm, mst, dk brn
- TOP OF BEDROCK
- Sh
- WEATHERED SHALE- fm, mst to dry, tan to lt gry, siy
- lt gry
- so, wet, tan-brn, siy
- lt gry w/ red-brn
- 9-4-75 6"
- v so, wet, slate gry w/fe stains
- so, wet bl gry, unwth

20
40
60

NOTES:
1. For General Geologic Column and Legend see Dwg. E-1.
2. For location of borings see Dwgs. E-2, E-3, and E-4.

AC-155

- CH
- FAT CLAY- med, mst, dk brn
- CL
- LEAN CLAY- med, mst to wet, dk brn to rusty brn, occ to num sh frag
- Pc
- TOP OF BEDROCK
- num cld ha frac
- ha frac
- 99.1% 7-16-76 7" SOILS 2 1/8" BEDROCK

AD-158 PZ

El 778.3

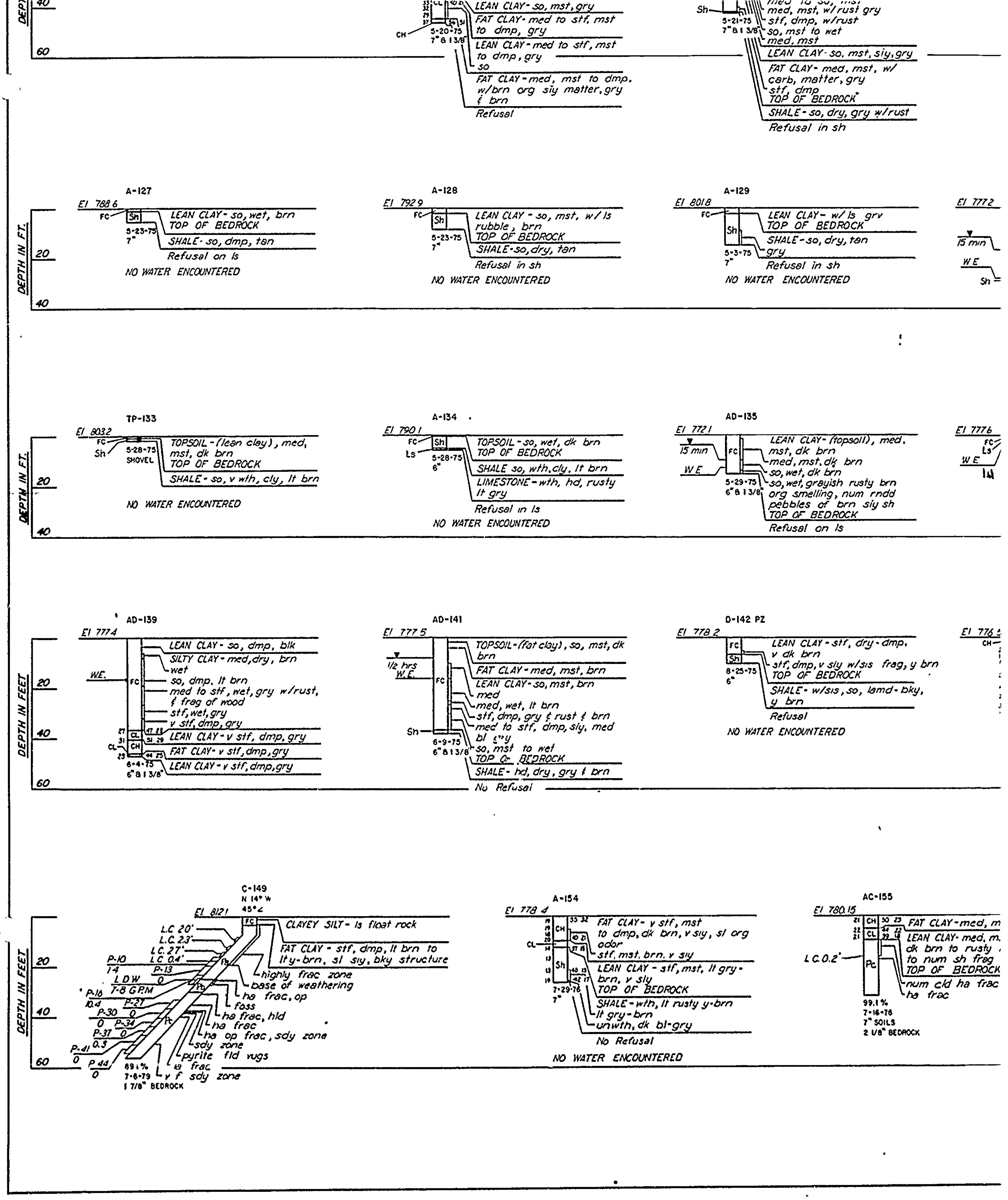
- CLAYEY SILT- (topsoil), stf to v stf, dmp to mst, dk brn, sl org odor
- FC
- SILT & CLAY MIXTURE - stf to med, mst, brn
- W E.
- FAT CLAY- v stf, mst, lt rusty brn, gry, blk, trace of sl, few fe pellets
- Sh
- 7-29-76 7" & 1 3/8"
- ss & sh frag
- TOP OF BEDROCK
- SHALE- wth unwth
- Refusal

20
40
60

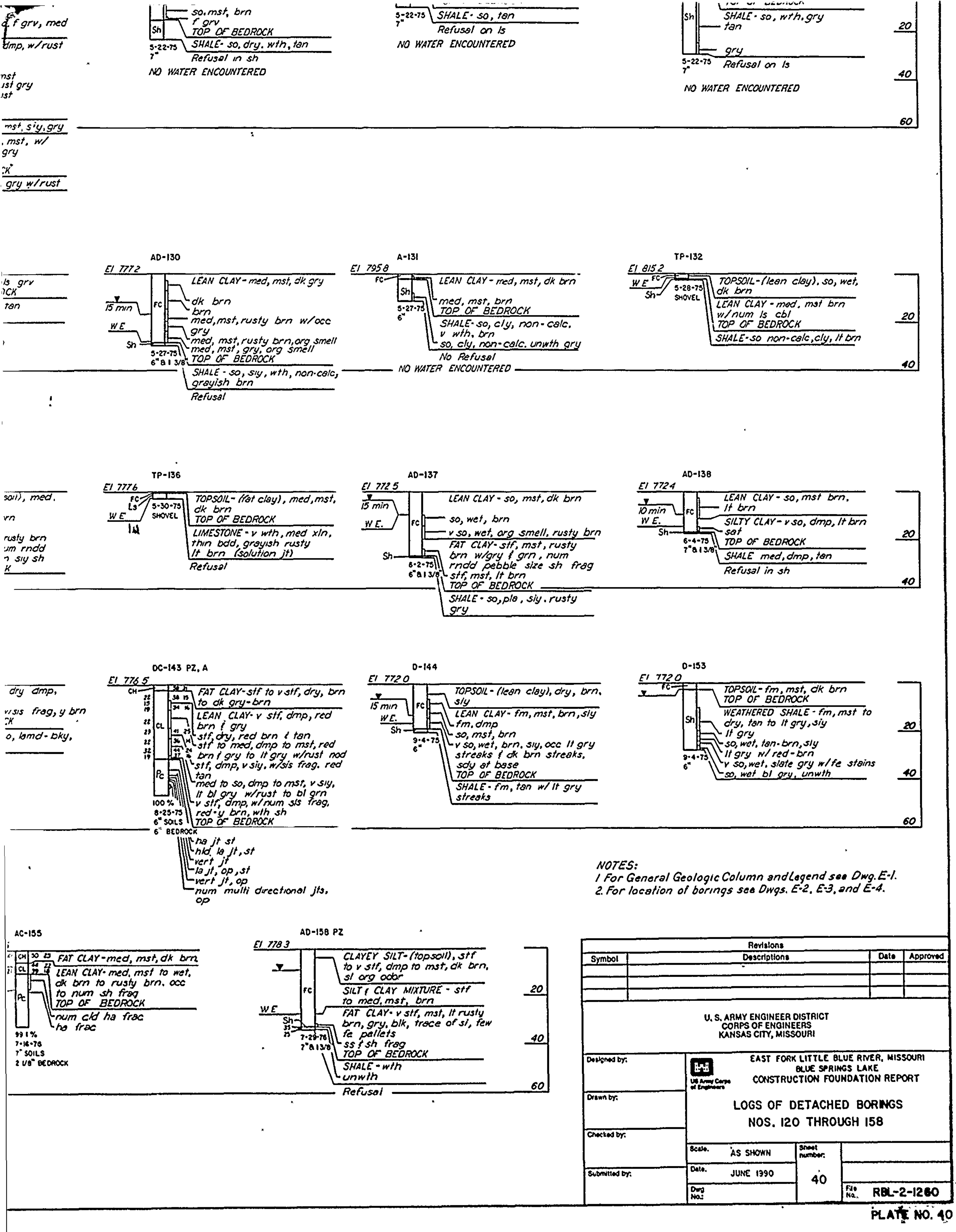
Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:	US Army Corps of Engineers — EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by:	LOGS OF DETACHED BORINGS NOS. 120 THROUGH 158
Checked by:	
	Scale: AS SHOWN — Sheet number: 10
Submitted by:	Date: JUNE 1990

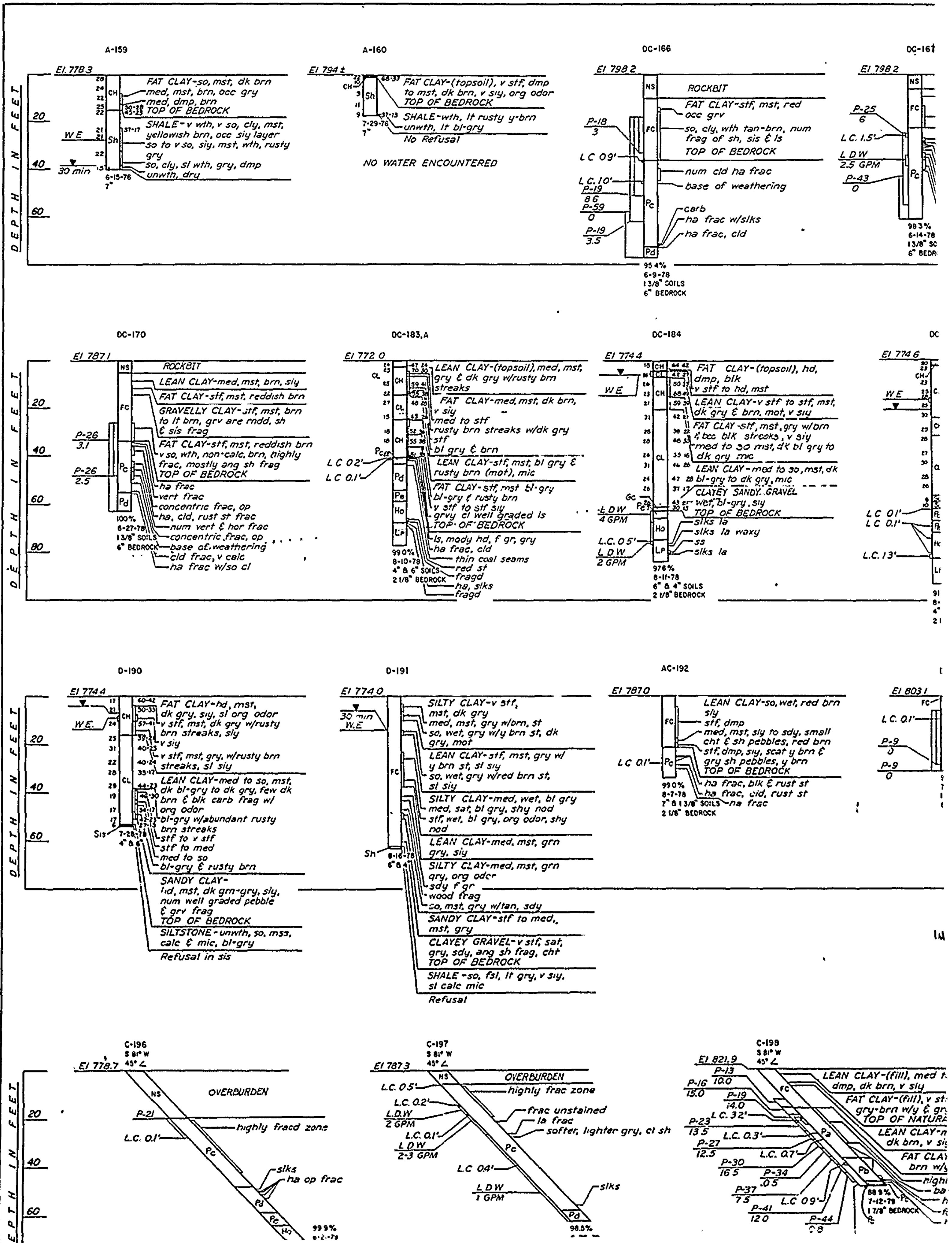


DEPTH
40
60
CH
5-20-75
7" & 1 3/8"
LEAN CLAY - so, mst, gry
FAT CLAY - med to stf, mst to dmp, gry
LEAN CLAY - med to stf, mst to dmp, gry
so
FAT CLAY - med, mst to dmp, w/brn org sly matter, gry & brn
Refusal
Sh
5-21-75
7" & 1 3/8"
med, mst, w/rust gry
stf, dmp, w/rust
so, mst to wet
med, mst
LEAN CLAY - so, mst, sly, gry
FAT CLAY - med, mst, w/ carb, matter, gry
stf, dmp
TOP OF BEDROCK
SHALE - so, dry, gry w/rust
Refusal in sh
A-127
El 788.6
FC
Sh
5-23-75
7"
LEAN CLAY - so, wet, brn
TOP OF BEDROCK
SHALE - so, dmp, tan
Refusal on ls
NO WATER ENCOUNTERED
DEPTH IN FT.
20
40
A-128
El 792.9
FC
Sh
5-23-75
7"
LEAN CLAY - so, mst, w/ ls rubble, brn
TOP OF BEDROCK
SHALE - so, dry, tan
Refusal in sh
NO WATER ENCOUNTERED
A-129
El 801.8
FC
Sh
5-3-75
7"
LEAN CLAY - w/ ls grv
TOP OF BEDROCK
SHALE - so, dry, tan
gry
Refusal in sh
NO WATER ENCOUNTERED
El 777.2
15 min
W.E.
Sh
TP-133
El 803.2
FC
Sh
5-28-75
SHOVEL
TOPSOIL - (lean clay), med, mst, dk brn
TOP OF BEDROCK
SHALE - so, v wth, cly, lt brn
NO WATER ENCOUNTERED
DEPTH IN FT.
20
40
A-134
El 790.1
FC
Ls
Sh
5-28-75
6"
TOPSOIL - so, wet, dk brn
TOP OF BEDROCK
SHALE so, wth, cly, lt brn
LIMESTONE - wth, hd, rusty lt gry
Refusal in ls
NO WATER ENCOUNTERED
AD-135
El 772.1
15 min
W.E.
FC
5-29-75
6" & 1 3/8"
LEAN CLAY - (topsoil), med, mst, dk brn
med, mst, dk brn
so, wet, dk brn
so, wet, grayish rusty brn org smelling, num rndd pebbles of brn sly sh
TOP OF BEDROCK
Refusal on ls
El 777.6
FC
Ls
W.E.
AD-139
El 777.4
W.E.
FC
CL
CH
6-4-75
6" & 1 3/8"
LEAN CLAY - so, dmp, blk
SILTY CLAY - med, dry, brn
wet
so, dmp, lt brn
med to stf, wet, gry w/rust, & frag of wood
stf, wet, gry
v stf, dmp, gry
LEAN CLAY - v stf, dmp, gry
FAT CLAY - v stf, dmp, gry
LEAN CLAY - v stf, dmp, gry
DEPTH IN FEET
20
40
60
AD-141
El 777.5
1/2 hrs
W.E.
FC
Sh
6-9-75
6" & 1 3/8"
TOPSOIL - (fat clay), so, mst, dk brn
FAT CLAY - med, mst, brn
LEAN CLAY - so, mst, brn
med
med, wet, lt brn
stf, dmp, gry & rust & brn
med to stf, dmp, sly, med bl gry
so, mst to wet
TOP OF BEDROCK
SHALE - hd, dry, gry & brn
No Refusal
D-142 PZ
El 778.2
FC
Sh
8-25-75
6"
LEAN CLAY - stf, dry - dmp, v dk brn
stf, dmp, v sly w/sls frag, y brn
TOP OF BEDROCK
SHALE - w/sls, so, lamd - bky, y brn
Refusal
NO WATER ENCOUNTERED
El 776
CH
C-149
N 14° W
45°
El 812.1
FC
L.C. 2.0'
L.C. 2.3'
L.C. 2.7'
L.C. 0.4'
P-10
14
P-13
0
L.D.W.
7-8 G.P.M.
P-16
10.4
P-27
P-30
0
P-34
0
P-37
0
0.3
P-41
0
P-44
0
Pc
89.1%
7-6-79
1 7/8" BEDROCK
CLAYEY SILT - ls float rock
FAT CLAY - stf, dmp, lt brn to lt y-brn, sl sly, bky structure
highly frac zone
base of weathering
ha frac, op
foss
ha frac, hld
ha frac
ha op frac, sdy zone
sdy zone
pyrite fld vugs
ia frac
v f sdy zone
DEPTH IN FEET
20
40
60
A-154
El 778.4
CH
CL
Sh
7-29-76
7"
FAT CLAY - v stf, mst to dmp, dk brn, v sly, sl org odor
stf, mst, brn, v sly
LEAN CLAY - stf, mst, lt gry-brn, v sly
TOP OF BEDROCK
SHALE - wth, lt rusty y-brn
lt gry-brn
unwth, dk bl-gry
No Refusal
NO WATER ENCOUNTERED
AC-155
El 780.15
CH
CL
L.C. 0.2'
Pc
99.1%
7-16-76
7" SOILS
2 1/8" BEDROCK
FAT CLAY - med, m
LEAN CLAY - med, m, dk brn to rusty, to num sh frag
TOP OF BEDROCK
num cld ha frac
ha frac

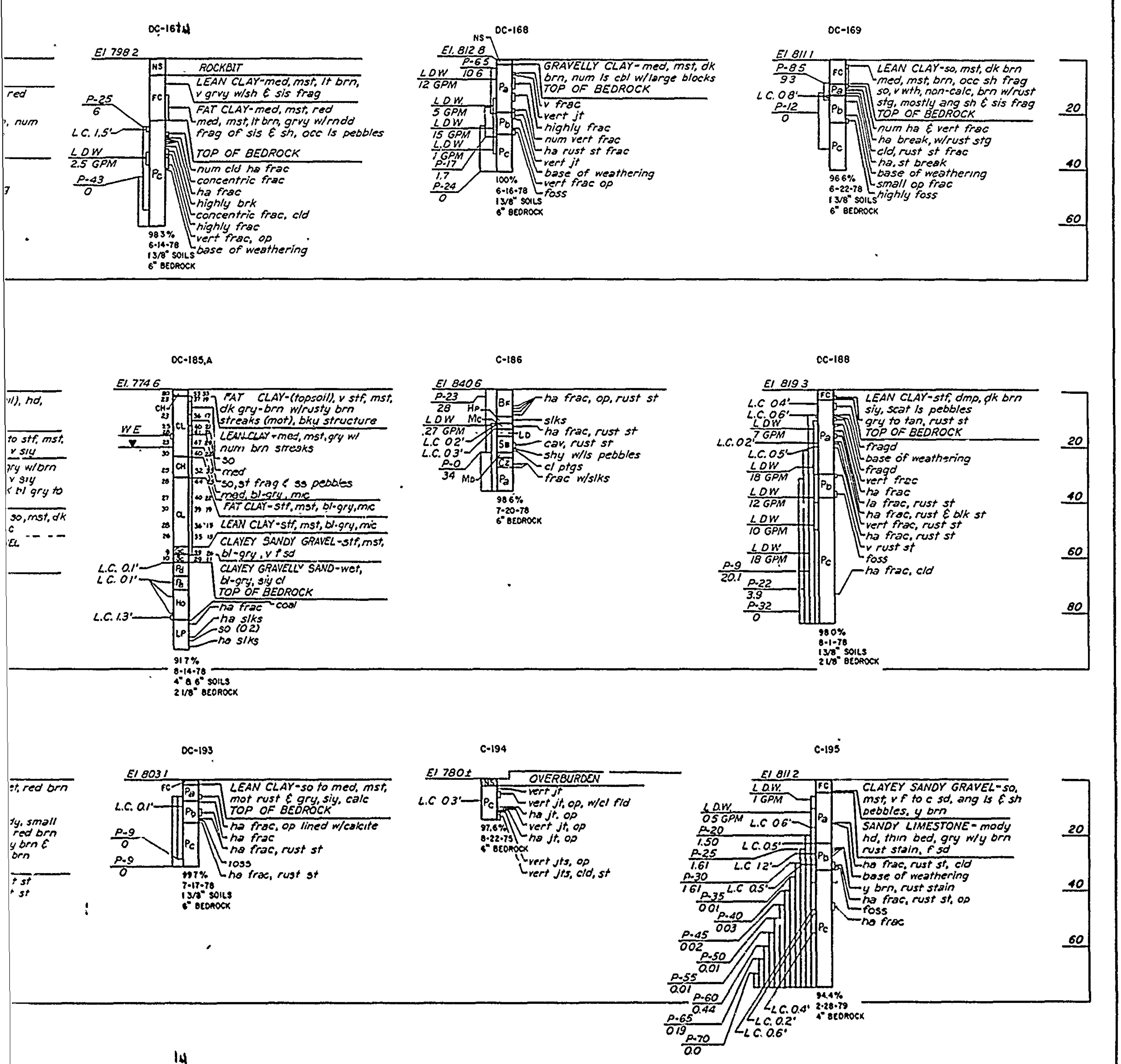


so, mst, brn
f grv
TOP OF BEDROCK
SHALE - so, dry, wth, tan
Refusal in sh
NO WATER ENCOUNTERED
SHALE - so, tan
Refusal on ls
NO WATER ENCOUNTERED
SHALE - so, wth, gry tan
gry
Refusal on ls
NO WATER ENCOUNTERED
AD-130
El 777.2
LEAN CLAY - med, mst, dk gry
dk brn
brn
med, mst, rusty brn w/occ gry
med, mst, rusty brn, org smell
med, mst, gry, org smell
TOP OF BEDROCK
SHALE - so, sly, wth, non-calc, grayish brn
Refusal
A-131
El 795.8
LEAN CLAY - med, mst, dk brn
med, mst, brn
TOP OF BEDROCK
SHALE - so, cly, non-calc, v wth, brn
so, cly, non-calc, unwth gry
No Refusal
NO WATER ENCOUNTERED
TP-132
El 815.2
TOPSOIL - (lean clay), so, wet, dk brn
LEAN CLAY - med, mst brn w/num ls cbl
TOP OF BEDROCK
SHALE - so non-calc, cly, lt brn
TP-136
El 777.6
TOPSOIL - (fat clay), med, mst, dk brn
TOP OF BEDROCK
LIMESTONE - v wth, med xln, thin bdd, grayish rusty lt brn (solution jt)
Refusal
AD-137
El 772.5
LEAN CLAY - so, mst, dk brn
so, wet, brn
v so, wet, org smell, rusty brn
FAT CLAY - stf, mst, rusty brn w/gry & grn, num rndd pebble size sh frag
stf, mst, lt brn
TOP OF BEDROCK
SHALE - so, pls, sly, rusty gry
AD-138
El 772.4
LEAN CLAY - so, mst brn, lt brn
SILTY CLAY - v so, dmp, lt brn
sat
TOP OF BEDROCK
SHALE med, dmp, tan
Refusal in sh
DC-143 PZ, A
El 776.5
FAT CLAY - stf to v stf, dry, brn to dk gry-brn
LEAN CLAY - v stf, dmp, red brn & gry
stf, dry, red brn & tan
stf to med, dmp to mst, red brn & gry to lt gry w/rust nod
stf, dmp, v sly, w/sls frag, red tan
med to so, dmp to mst, v sly, lt bl gry w/rust to bl grn
v stf, dmp, w/num sls frag, red-y brn, wth sh
TOP OF BEDROCK
ha jt st
hld la jt, st
vert jt
la jt, op, st
vert jt, op
num multi directional jts, op
D-144
El 772.0
TOPSOIL - (lean clay), dry, brn, sly
LEAN CLAY - fm, mst, brn, sly
fm, dmp
so, mst, brn
v so, wet, brn, sly, occ lt gry streaks & dk brn streaks, sdy at base
TOP OF BEDROCK
SHALE - fm, tan w/ lt gry streaks
D-153
El 772.0
TOPSOIL - fm, mst, dk brn
TOP OF BEDROCK
WEATHERED SHALE - fm, mst to dry, tan to lt gry, sly
lt gry
so, wet, tan-brn, sly
lt gry w/ red-brn
v so, wet, slate gry w/fe stains
so, wet bl gry, unwth
NOTES:
1 For General Geologic Column and Legend see Dwg. E-1.
2. For location of borings see Dwgs. E-2, E-3, and E-4.
AC-155
FAT CLAY - med, mst, dk brn
LEAN CLAY - med, mst to wet, dk brn to rusty brn, occ to num sh frag
TOP OF BEDROCK
num cld ha frac
ha frac
AD-158 PZ
El 778.3
CLAYEY SILT - (topsoil), stf to v stf, dmp to mst, dk brn, sl org odor
SILT & CLAY MIXTURE - stf to med, mst, brn
FAT CLAY - v stf, mst, lt rusty brn, gry, blk, trace of sl, few fe pellets
ss & sh frag
TOP OF BEDROCK
SHALE - wth
unwth
Refusal
Revisions
Symbol
Descriptions
Date
Approved
U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI
Designed by:
Drawn by:
Checked by:
Submitted by:
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT
LOGS OF DETACHED BORINGS
NOS. 120 THROUGH 158
Scale. AS SHOWN
Date. JUNE 1990
Sheet number: 40
File No. RBL-2-1260
PLATE NO. 40

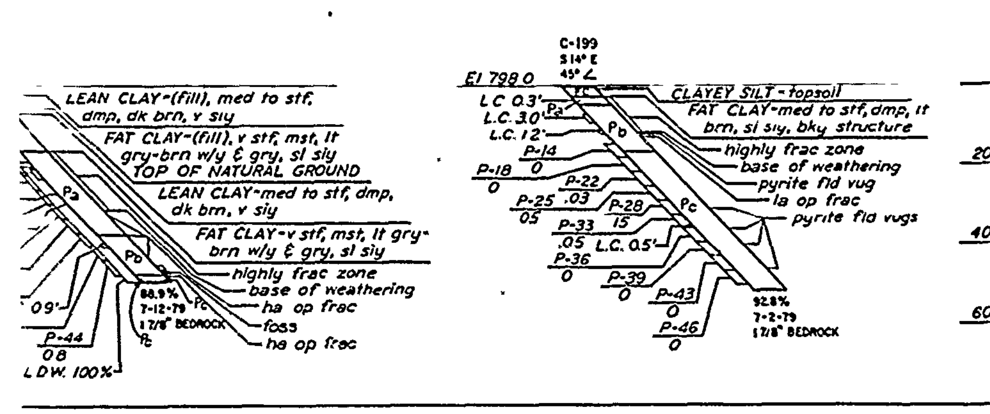
VALUE ENGINEERING PAYS



NG PAYS



NOTES.
1 For General Geologic Column and Legend see Dwg E-1
2 For location of borings see Dwgs. E-2, E-3, and E-4.



Revisions			
Symbol	Descriptions	Date	Approved

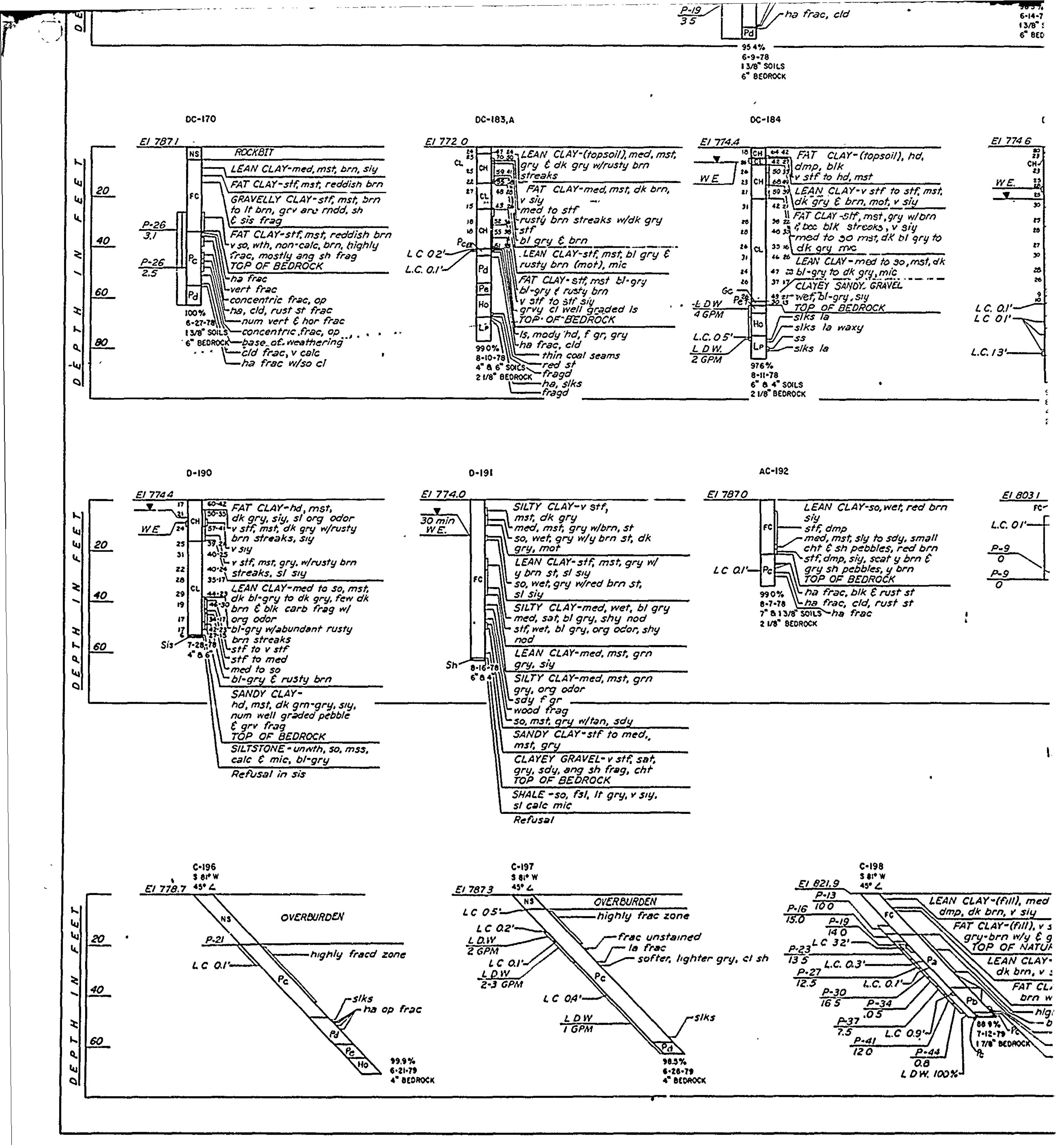
U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:
Drawn by:
Checked by:
Submitted by:

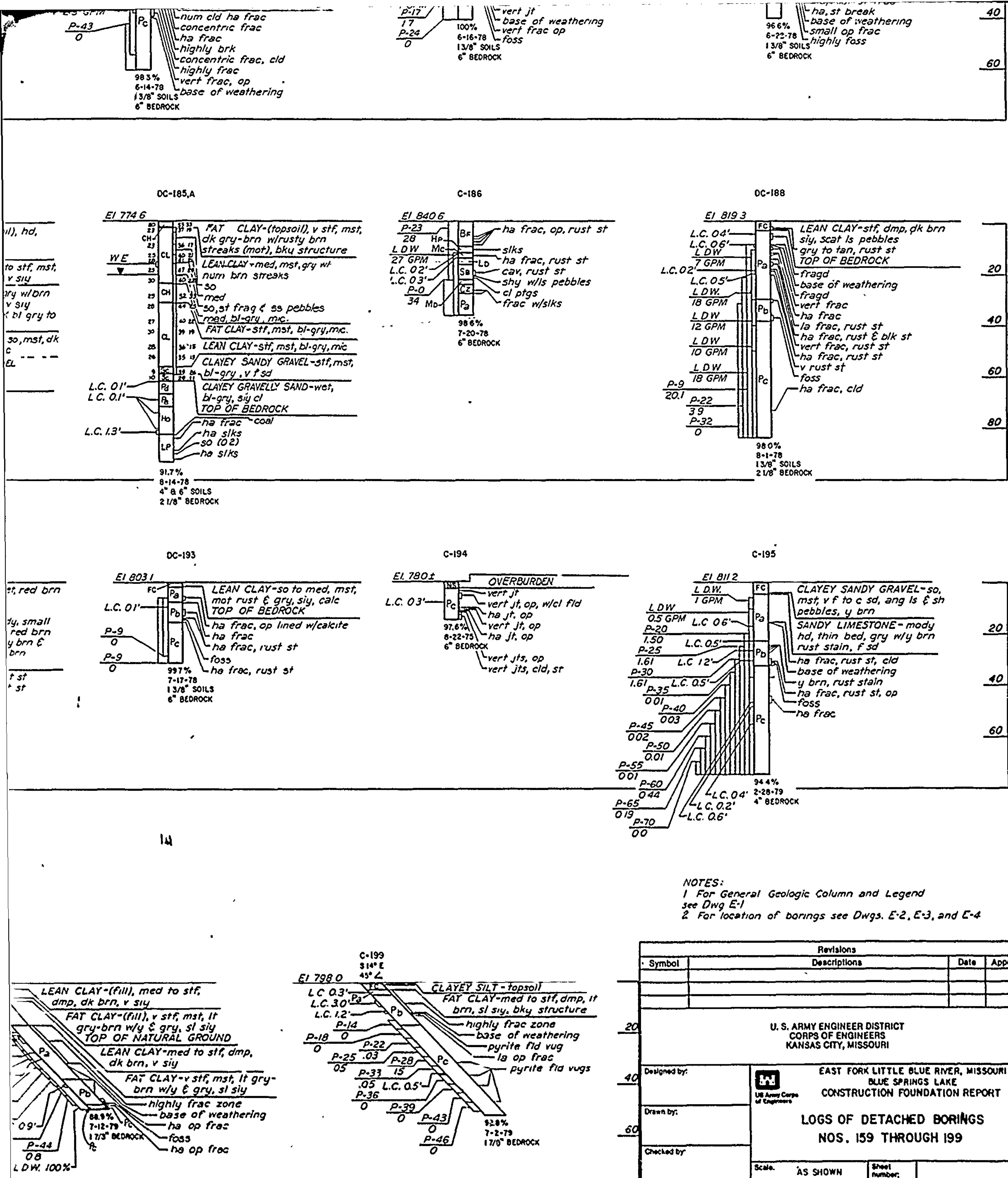
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

LOGS OF DETACHED BORINGS
NOS. 159 THROUGH 199

Scale: AS SHOWN
Sheet number:
Date: JUNE 1990



P-19
3.5
Pd
ha frac, cld
95.4%
6-9-78
1 3/8" SOILS
6" BEDROCK
DC-170
El 787.1
NS
ROCKBIT
LEAN CLAY-med, mst, brn, siy
FAT CLAY-stf, mst, reddish brn
FC
GRAVELLY CLAY-stf, mst, brn to lt brn, grv are rndd, sh & sis frag
P-26
3.1
FAT CLAY-stf, mst, reddish brn
v so, wth, non-calc, brn, highly frac, mostly ang sh frag
P-26
2.5
Pc
TOP OF BEDROCK
ha frac
vert frac
Pd
concentric frac, op
ha, cld, rust st frac
100%
6-27-78
num vert & hor frac
1 3/8" SOILS
concentric frac, op
6" BEDROCK
base of weathering
cld frac, v calc
ha frac w/so cl
DEPTH IN FEET
20
40
60
80
DC-183,A
El 772.0
CL
CH
LEAN CLAY-(topsoil), med, mst, gry & dk gry w/rusty brn streaks
FAT CLAY-med, mst, dk brn, v siy
med to stf
rusty brn streaks w/dk gry
CL
stf
CH
bl gry & brn
Pca
LEAN CLAY-stf, mst, bl gry & rusty brn (mot), mic
L C 0.2'
L.C. 0.1'
Pd
Pe
FAT CLAY-stf, mst bl-gry
bl-gry & rusty brn
Ho
v stf to stf siy
grvy cl well graded ls
TOP OF BEDROCK
Lp
ls, mody hd, f gr, gry
ha frac, cld
99.0%
8-10-78
thin coal seams
4" & 6" SOILS
red st
2 1/8" BEDROCK
fragd
ha, slks
fragd
DC-184
El 774.4
W.E.
CH
CL
CH
FAT CLAY-(topsoil), hd, dmp, blk
v stf to hd, mst
LEAN CLAY-v stf to stf, mst, dk gry & brn, mot, v siy
FAT CLAY-stf, mst, gry w/brn & bcc blk streaks, v siy
med to so mst, dk bl gry to dk gry mic
CL
LEAN CLAY-med to so, mst, dk bl-gry to dk gry, mic
CLAYEY SANDY GRAVEL
Gc
wet, bl-gry, siy
L.D.W.
4 GPM
Pe
TOP OF BEDROCK
slks la
Ho
slks la waxy
L.C. 0.5'
ss
L.D.W.
2 GPM
Lp
slks la
97.6%
8-11-78
6" & 4" SOILS
2 1/8" BEDROCK
El 774.6
W.E.
L.C. 0.1'
L.C. 0.1'
L.C. 1.3'
D-190
El 774.4
W.E.
CH
FAT CLAY-hd, mst, dk gry, siy, sl org odor
v stf, mst, dk gry w/rusty brn streaks, siy
v siy
v stf, mst, gry, w/rusty brn streaks, sl siy
CL
LEAN CLAY-med to so, mst, dk bl-gry to dk gry, few dk brn & blk carb frag w/ org odor
bl-gry w/abundant rusty brn streaks
Sis
stf to v stf
7-28-78
stf to med
4" & 6"
med to so
bl-gry & rusty brn
SANDY CLAY-hd, mst, dk grn-gry, siy, num well graded pebble & grv frag
TOP OF BEDROCK
SILTSTONE-unwth, so, mss, calc & mic, bl-gry
Refusal in sis
DEPTH IN FEET
20
40
60
D-191
El 774.0
30 min
W.E.
SILTY CLAY-v stf, mst, dk gry
med, mst, gry w/brn, st
so, wet, gry w/y brn st, dk gry, mot
LEAN CLAY-stf, mst, gry w/ y brn st, sl siy
FC
so, wet, gry w/red brn st, sl siy
SILTY CLAY-med, wet, bl gry
med, sat, bl gry, shy nod
stf, wet, bl gry, org odor, shy nod
LEAN CLAY-med, mst, grn gry, siy
Sh
8-16-78
6" & 4"
SILTY CLAY-med, mst, grn gry, org odor
sdy f gr
wood frag
so, mst, gry w/tan, sdy
SANDY CLAY-stf to med, mst, gry
CLAYEY GRAVEL-v stf, sat, gry, sdy, ang sh frag, cht
TOP OF BEDROCK
SHALE-so, fsl, lt gry, v siy, sl calc mic
Refusal
AC-192
El 787.0
FC
LEAN CLAY-so, wet, red brn siy
stf, dmp
med, mst, sly to sdy, small cht & sh pebbles, red brn
L C 0.1'
Pc
stf, dmp, siy, scat y brn & gry sh pebbles, y brn
TOP OF BEDROCK
99.0%
ha frac, blk & rust st
8-7-78
ha frac, cld, rust st
7" & 1 3/8" SOILS
ha frac
2 1/8" BEDROCK
El 803.1
L.C. 0.1'
P-9
0
P-9
0
C-196
S 81° W
45° ∠
El 778.7
NS
OVERBURDEN
P-21
highly fracd zone
L C 0.1'
Pc
slks
ha op frac
Pd
Pe
Ho
99.9%
6-21-79
4" BEDROCK
DEPTH IN FEET
20
40
60
C-197
S 81° W
45° ∠
El 787.3
NS
OVERBURDEN
L C 0.5'
highly frac zone
L C 0.2'
frac unstained
L.D.W.
2 GPM
la frac
softer, lighter gry, cl sh
L C 0.1'
L D W
2-3 GPM
Pc
L C 0.4'
slks
L D W
1 GPM
Pd
98.5%
6-26-79
4" BEDROCK
C-198
S 81° W
45° ∠
El 821.9
P-13
10.0
LEAN CLAY-(fill), med dmp, dk brn, v siy
P-16
15.0
FC
P-19
14.0
FAT CLAY-(fill), v s gry-brn w/y & g
L C 3.2'
TOP OF NATU
P-23
13.5
L.C. 0.3'
Pa
LEAN CLAY- dk brn, v
P-27
12.5
L.C. 0.1'
FAT CL brn w
P-30
16.5
Pb
P-34
0.5
P-37
7.5
L.C. 0.9'
88.9%
7-12-79
1 7/8" BEDROCK
P-41
12.0
P-44
0.8
Pc
L D W. 100%



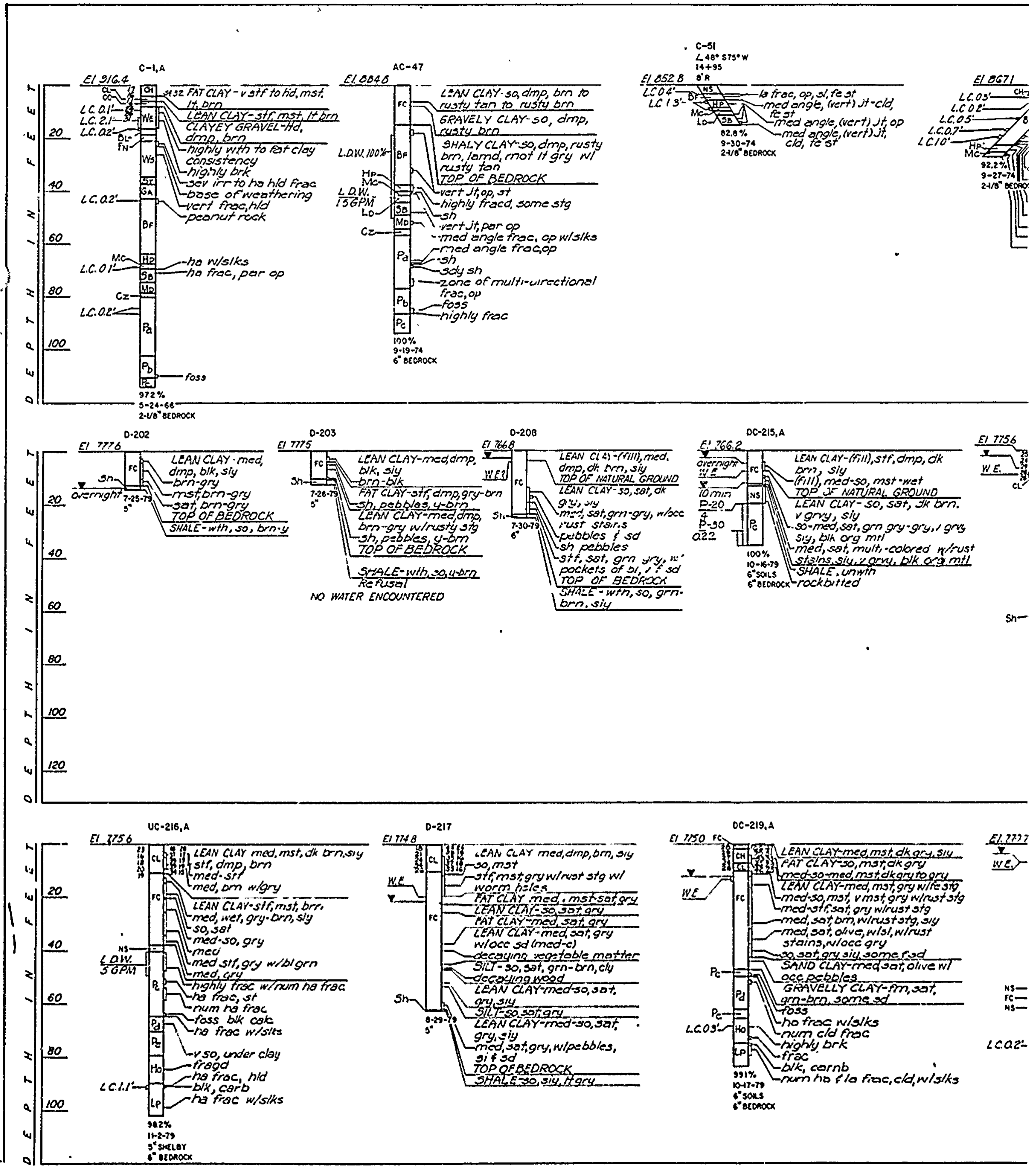
NOTES:
1 For General Geologic Column and Legend see Dwg E-1
2 For location of borings see Dwgs. E-2, E-3, and E-4

Symbol	Descriptions	Date	Approved

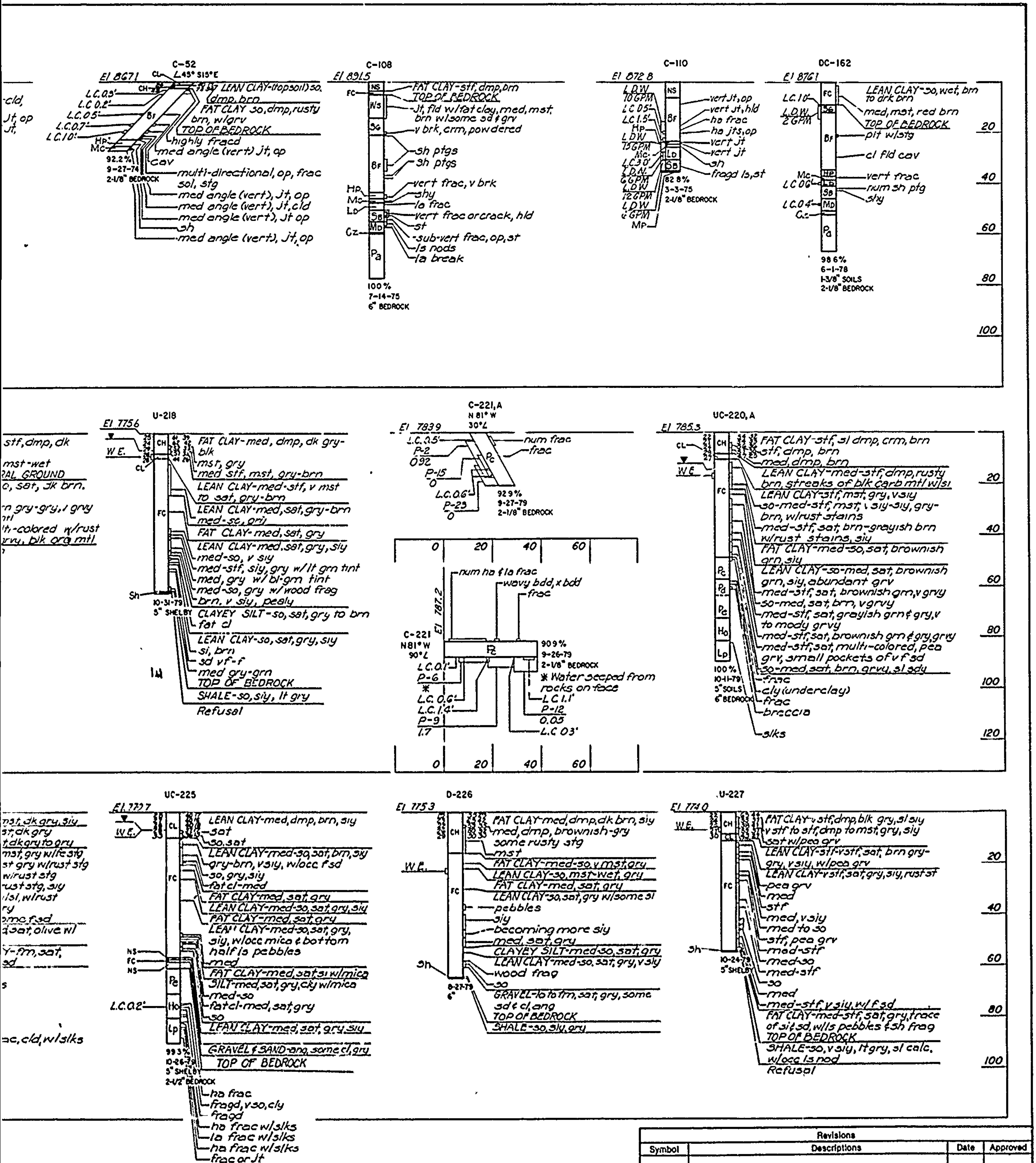
U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by:	LOGS OF DETACHED BORINGS NOS. 159 THROUGH 199
Checked by:	Scale: AS SHOWN — Sheet number: 41
Submitted by:	Date: JUNE 1990 — Dwg. No.: — File No.: RBL-2-1261

PLATE NO. 41


C-1,A
El 916.4
FAT CLAY - v stf to hd, mst, lt brn
LEAN CLAY - stf, mst, lt brn
CLAYEY GRAVEL - hd, dmp, brn
highly wth to fat clay consistency
highly brk
sev irr to ha hld frac
base of weathering
vert frac, hld
peanut rock
ha w/slks
ha frac, par op
foss
97.2%
5-24-66
2-1/8" BEDROCK
AC-47
El 884.8
LEAN CLAY - so, dmp, brn to rusty tan to rusty brn
GRAVELY CLAY - so, dmp, rusty brn
SHALY CLAY - so, dmp, rusty brn, lamd, mot lt gry w/ rusty tan
TOP OF BEDROCK
vert jt, op, st
highly fracd, some stg
sh
vert jt, par op
med angle frac, op w/slks
med angle frac, op
sh
sdy sh
zone of multi-directional frac, op
foss
highly frac
100%
9-19-74
6" BEDROCK
C-51
∠48° S75°W
14+95
8'R
El 852.8
la frac, op, sl, fe st
med angle, (vert) jt - cld, fe st
med angle, (vert) jt, op
med angle, (vert) jt, cld, fe st
82.8%
9-30-74
2-1/8" BEDROCK
El 867.1
92.2%
9-27-74
D-202
El 777.6
LEAN CLAY - med, dmp, blk, sly
brn-gry
mst, brn-gry
sat, brn-gry
TOP OF BEDROCK
SHALE - wth, so, brn-y
overnight
7-25-79
5"
D-203
El 777.5
LEAN CLAY - med, dmp, blk, sly
brn-blk
FAT CLAY - stf, dmp, gry-brn
sh, pebbles, y-brn
LEAN CLAY - med, dmp, brn-gry w/rusty stg
sh, pebbles, y-brn
TOP OF BEDROCK
SHALE - wth, so, y-brn
Refusal
NO WATER ENCOUNTERED
7-26-79
5"
D-208
El 766.8
LEAN CLAY - (fill), med, dmp, dk brn, sly
TOP OF NATURAL GROUND
LEAN CLAY - so, sat, dk gry, sly
med, sat, grn-gry, w/occ rust stains
pebbles & sd
sh pebbles
stf, sat, grn gry, w/ pockets of bl, r & sd
TOP OF BEDROCK
SHALE - wth, so, grn-brn, sly
7-30-79
6"
DC-215,A
El 766.2
LEAN CLAY - (fill), stf, dmp, dk brn, sly
(fill), med-so, mst-wet
TOP OF NATURAL GROUND
LEAN CLAY - so, sat, dk brn, v gry, sly
so-med, sat, grn gry-gry, r gry, sly, blk org mtl
med, sat, multi-colored w/rust stains, sly, v grvy, blk org mtl
SHALE, unwth
rockbitted
overnight
10 min
100%
10-16-79
6" SOILS
6" BEDROCK
El 775.6
UC-216,A
El 775.6
LEAN CLAY med, mst, dk brn, sly
stf, dmp, brn
med-stf
med, brn w/gry
LEAN CLAY - stf, mst, brn
med, wet, gry-brn, sly
so, sat
med-so, gry
med
med stf, gry w/bl grn
med, gry
highly frac w/num ha frac
ha frac, st
num ha frac
foss blk cak
ha frac w/slts
v so, under clay
fragd
ha frac, hld
blk, carb
ha frac w/slks
L.D.W. 5 GPM
98.2%
11-2-79
5" SHELBY
6" BEDROCK
D-217
El 774.8
LEAN CLAY med, dmp, brn, sly
so, mst
stf, mst, gry w/rust stg w/ worm holes
FAT CLAY med, mst-sat, gry
LEAN CLAY - so, sat, gry
FAT CLAY - med, sat, gry
LEAN CLAY - med, sat, gry w/occ sd (med-c)
decaying vegetable matter
SILT - so, sat, grn-brn, cly
decaying wood
LEAN CLAY - med-so, sat, gry, sly
SILT - so, sat, gry
LEAN CLAY - med-so, sat, gry, sly
med, sat, gry, w/pebbles, si & sd
TOP OF BEDROCK
SHALE - so, sly, lt gry
8-29-79
5"
DC-219,A
El 775.0
LEAN CLAY - med, mst, dk gry, sly
FAT CLAY - so, mst, dk gry
med-so-med, mst, dk gry to gry
LEAN CLAY - med, mst, gry w/fe stg
med-so, mst, v mst, gry w/rust stg
med-stf, sat, gry w/rust stg
med, sat, brn, w/rust stg, sly
med, sat, olive, w/sl, w/rust stains, w/occ gry
so, sat, gry sly, some f sd
SAND CLAY - med, sat, olive w/ occ pebbles
GRAVELLY CLAY - fm, sat, grn-brn, some sd
foss
ha frac w/slks
num cld frac
highly brk
frac
blk, carb
num ha & la frac, cld, w/slks
99.1%
10-17-79
6" SOILS
6" BEDROCK
El 777.7
DEPTH IN FEET

…G PAYS



NOTES
1. For General Geologic Column and Legend, see Dwg E-1
2. For location of borings, see Dwgs E-2, E-3, and E-4

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:

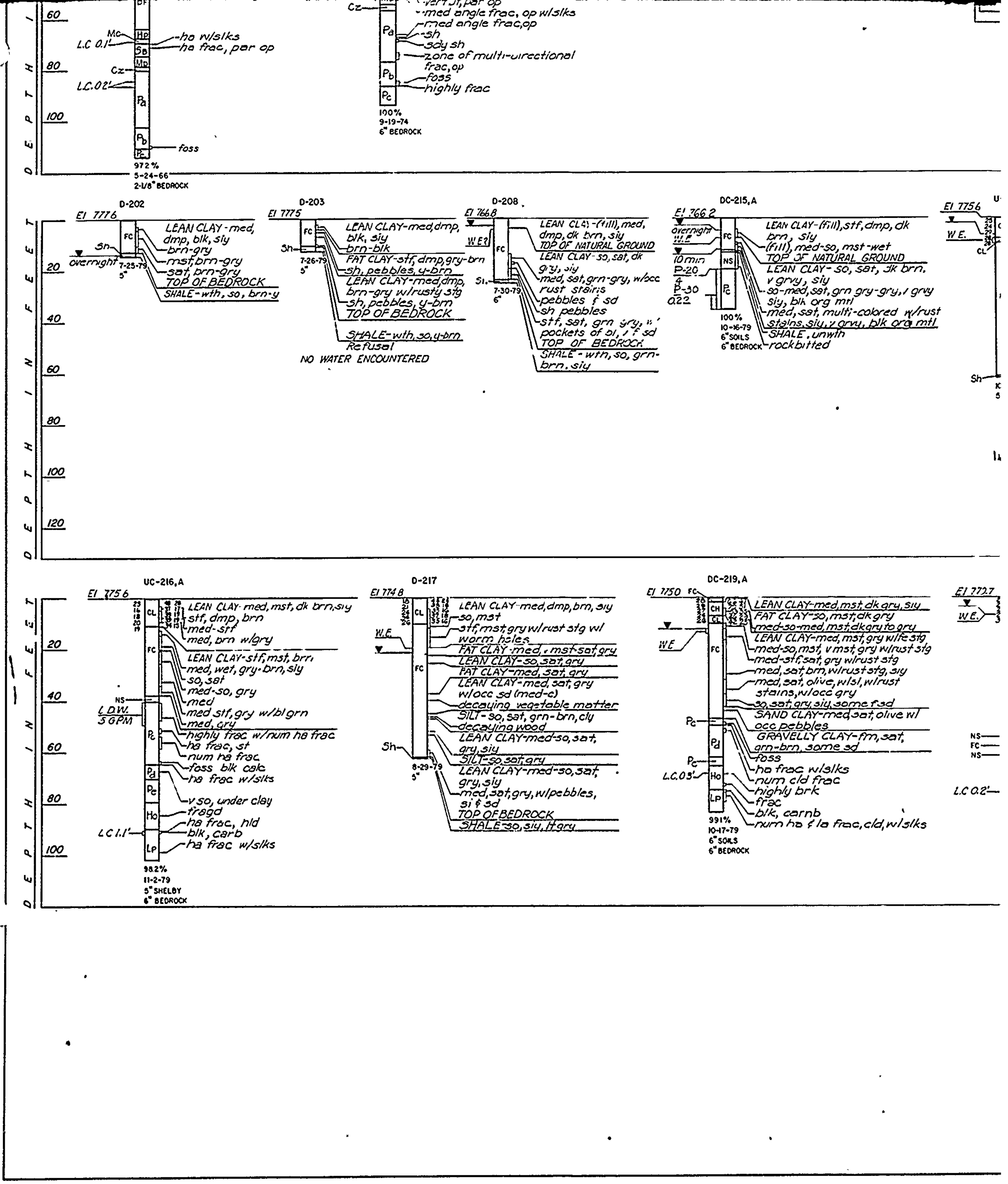
Drawn by:

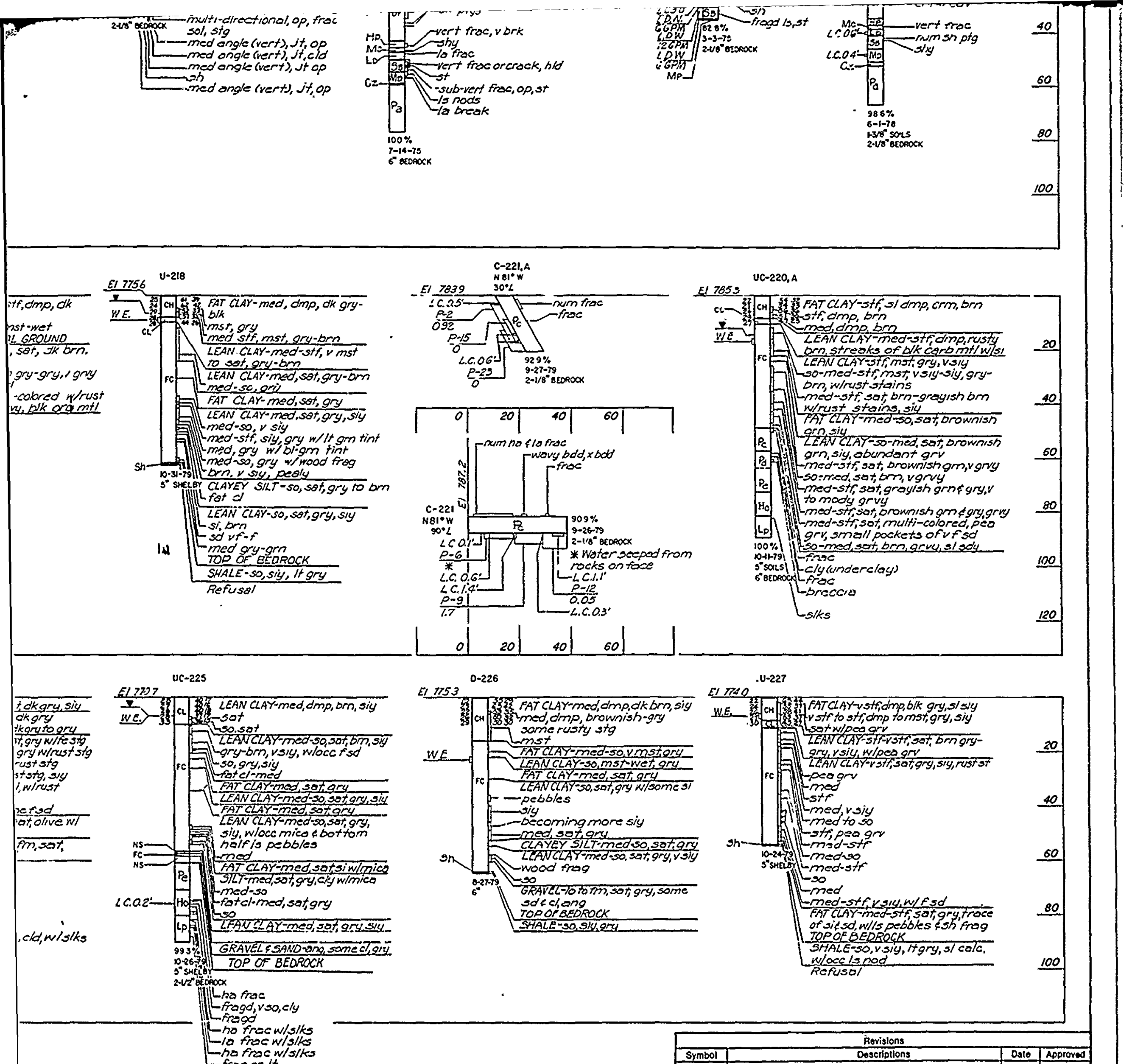
Checked by:

US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

LOGS OF DETACHED BORINGS
NOS. 202 THROUGH 227


DEPTH IN FEET
60
80
100
120
20
40
ho w/slks
ha frac, par op
L.C 0.1'
L.C.0.2'
foss
97.2%
5-24-66
2-1/8" BEDROCK
med angle frac, op w/slks
med angle frac, op
sh
sdy sh
zone of multi-directional frac, op
foss
highly frac
100%
9-19-74
6" BEDROCK
D-202
El 7776
LEAN CLAY - med, dmp, blk, sly
brn-gry
mst, brn-gry
sat, brn-gry
TOP OF BEDROCK
SHALE - wth, so, brn-y
overnight
7-25-79
5"
D-203
El 7775
LEAN CLAY-med, dmp, blk, sly
brn-blk
FAT CLAY-stf, dmp, gry-brn
sh, pebbles, y-brn
LEAN CLAY-med, dmp, brn-gry w/rusty stg
sh, pebbles, y-brn
TOP OF BEDROCK
SHALE-wth, so, y-brn
Refusal
NO WATER ENCOUNTERED
7-26-79
5"
D-208
El 7668
W.E.
LEAN CLAY-(fill), med, dmp, dk brn, sly
TOP OF NATURAL GROUND
LEAN CLAY - so, sat, dk gry, sly
med, sat, grn-gry, w/occ rust stains
pebbles & sd
sh pebbles
stf, sat, grn gry, w/ pockets of si, v f sd
TOP OF BEDROCK
SHALE - wth, so, grn-brn, sly
7-30-79
6"
DC-215, A
El 766.2
overnight W.E.
10 min
P-20
P-30
0.22
LEAN CLAY-(fill), stf, dmp, dk brn, sly
(fill), med-so, mst-wet
TOP OF NATURAL GROUND
LEAN CLAY - so, sat, dk brn, v gry, sly
so-med, sat, grn gry-gry, v gry sly, blk org mtl
med, sat, multi-colored w/rust stains, sly, v gry, blk org mtl
SHALE, unwth
rockbitted
100%
10-16-79
6" SOILS
6" BEDROCK
El 775.6
W.E.
UC-216, A
El 775.6
LEAN CLAY-med, mst, dk brn, sly
stf, dmp, brn
med-stf
med, brn w/gry
LEAN CLAY-stf, mst, brn
med, wet, gry-brn, sly
so, sat
med-so, gry
med
med stf, gry w/bl grn
med, gry
highly frac w/num ha frac
ha frac, st
num ha frac
foss blk calc
ha frac w/slks
v so, under clay
fragd
ha frac, hld
blk, carb
ha frac w/slks
L.D.W. 5 GPM
L.C 1.1'
98.2%
11-2-79
5" SHELBY
6" BEDROCK
D-217
El 774.8
W.E.
LEAN CLAY-med, dmp, brn, sly
so, mst
stf, mst, gry w/rust stg w/ worm holes
FAT CLAY-med, v mst-sat, gry
LEAN CLAY-so, sat, gry
FAT CLAY-med, sat, gry
LEAN CLAY-med, sat, gry w/occ sd (med-c)
decaying vegetable matter
SILT-so, sat, grn-brn, cly
decaying wood
LEAN CLAY-med-so, sat, gry, sly
SILT-so, sat, gry
LEAN CLAY-med-so, sat, gry, sly
med, sat, gry, w/pebbles, si & sd
TOP OF BEDROCK
SHALE-so, sly, lt gry
8-29-79
5"
DC-219, A
El 775.0
W.E.
LEAN CLAY-med, mst, dk gry, sly
FAT CLAY-so, mst, dk gry
med-so-med, mst, dk gry to gry
LEAN CLAY-med, mst, gry w/fe stg
med-so, mst, v mst, gry w/rust stg
med-stf, sat, gry w/rust stg
med, sat, brn, w/rust stg, sly
med, sat, olive, w/sl, w/rust stains, w/occ gry
so, sat, gry, sly, some f sd
SAND CLAY-med, sat, olive w/ occ pebbles
GRAVELLY CLAY-fm, sat, grn-brn, some sd
foss
ha frac w/slks
num cld frac
highly brk
frac
blk, carnb
num ha & la frac, cld, w/slks
L.C.0.5'
99.1%
10-17-79
6" SOILS
6" BEDROCK
El 772.7
W.E.
L.C 0.2'



NOTES
1. For General Geologic Column and Legend, see Dwg E-1
2. For location of borings, see Dwgs E-2, E-3, and E-4

Symbol	Revisions — Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:

Drawn by:

Checked by:

Submitted by:

US Army Corps of Engineers

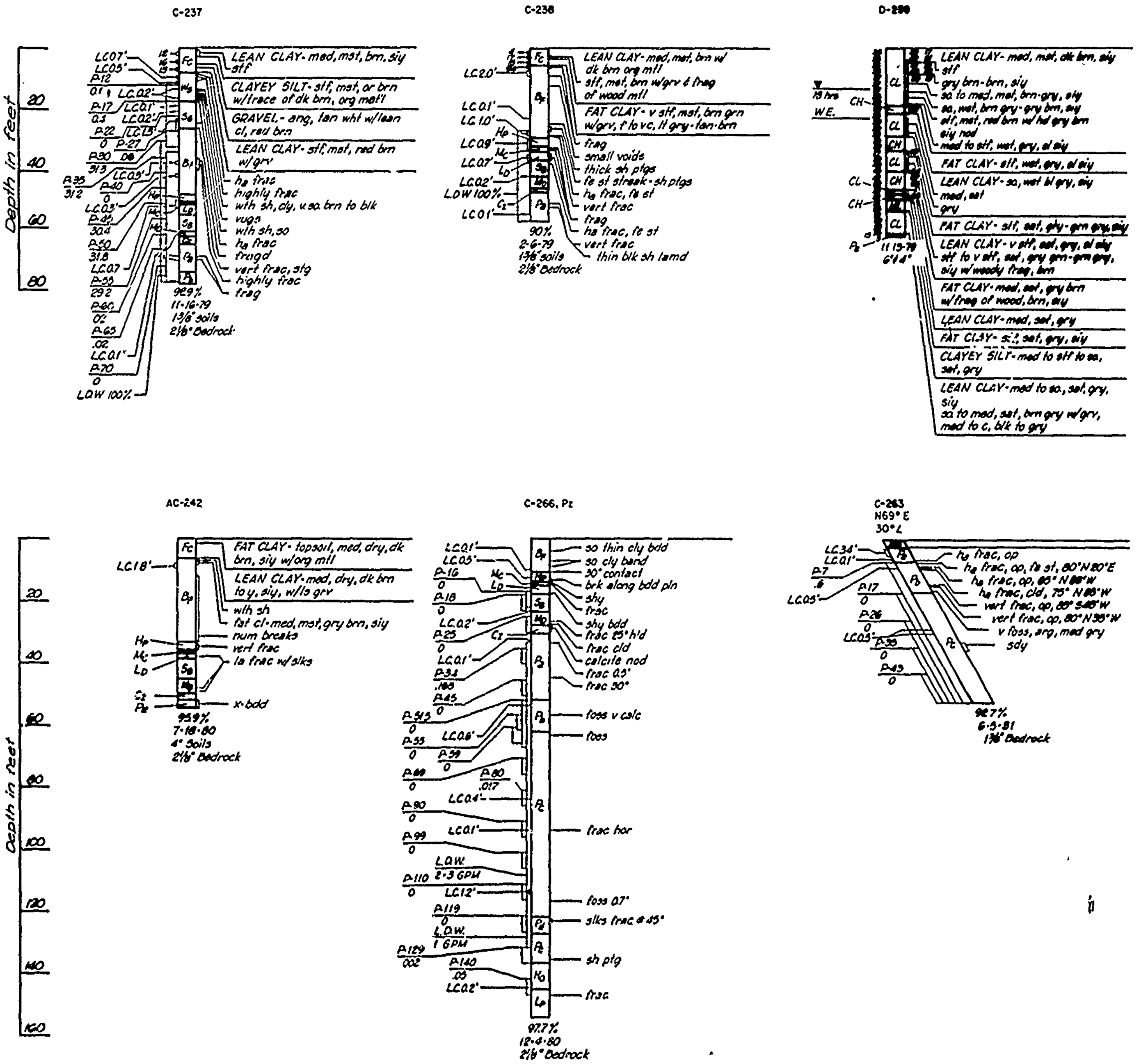
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

LOGS OF DETACHED BORINGS
NOS. 202 THROUGH 227

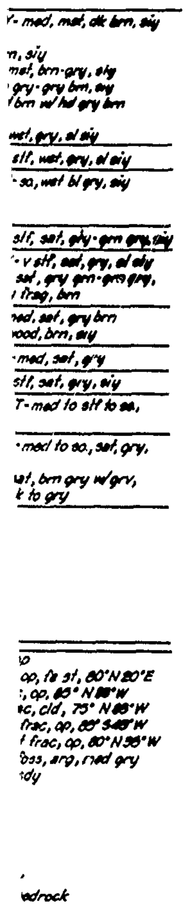
Scale: AS SHOWN
Sheet number: 42
Date: JUNE 1990
Dwg. No.:
File No. RBL-2-1262

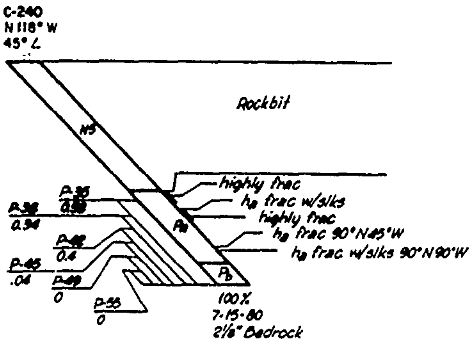
PLATE NO. 42

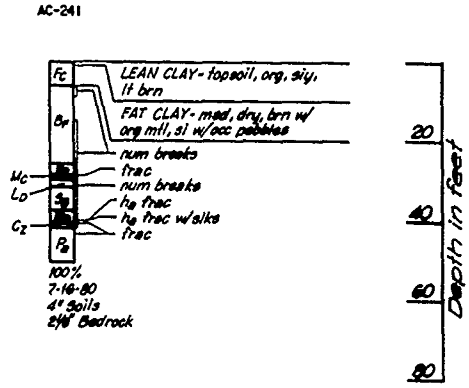
[redacted]

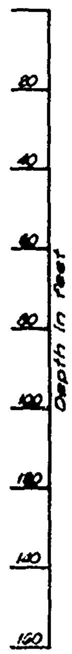


C-237
C-238
D-290
AC-242
C-266, Pz
C-263
N69° E
30° L
Depth in feet
LEAN CLAY- med, mst, brn, siy stf
CLAYEY SILT- stf, mst, or brn w/trace of dk brn, org mat'l
GRAVEL- ang, tan wht w/lean cl, red brn
LEAN CLAY- stf, mst, red brn w/grv
99.9%
11-16-79
1-3/8" soils
2-1/8" Bedrock
LEAN CLAY- med, mst, brn w/ dk brn org mtl
FAT CLAY- v stf, mst, brn grn w/grv, f to vc, lt gry-tan-brn
small voids
thick sh ptgs
90%
2-6-79
1-3/8" soils
2-1/8" Bedrock
thin blk sh lamd
FAT CLAY- topsoil, med, dry, dk brn, siy w/org mtl
LEAN CLAY- med, dry, dk brn to v. siy, w/ls grv
95.9%
7-18-80
4" Soils
2-1/8" Bedrock
97.7%
12-4-80
2-1/8" Bedrock
frac hor
sh ptg
98.7%
6-5-81
1-3/8" Bedrock









NOTE:
1. For location of boring see Dwg. E2.
2. For General Geologic Column and Legend see Dwg. E1.

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

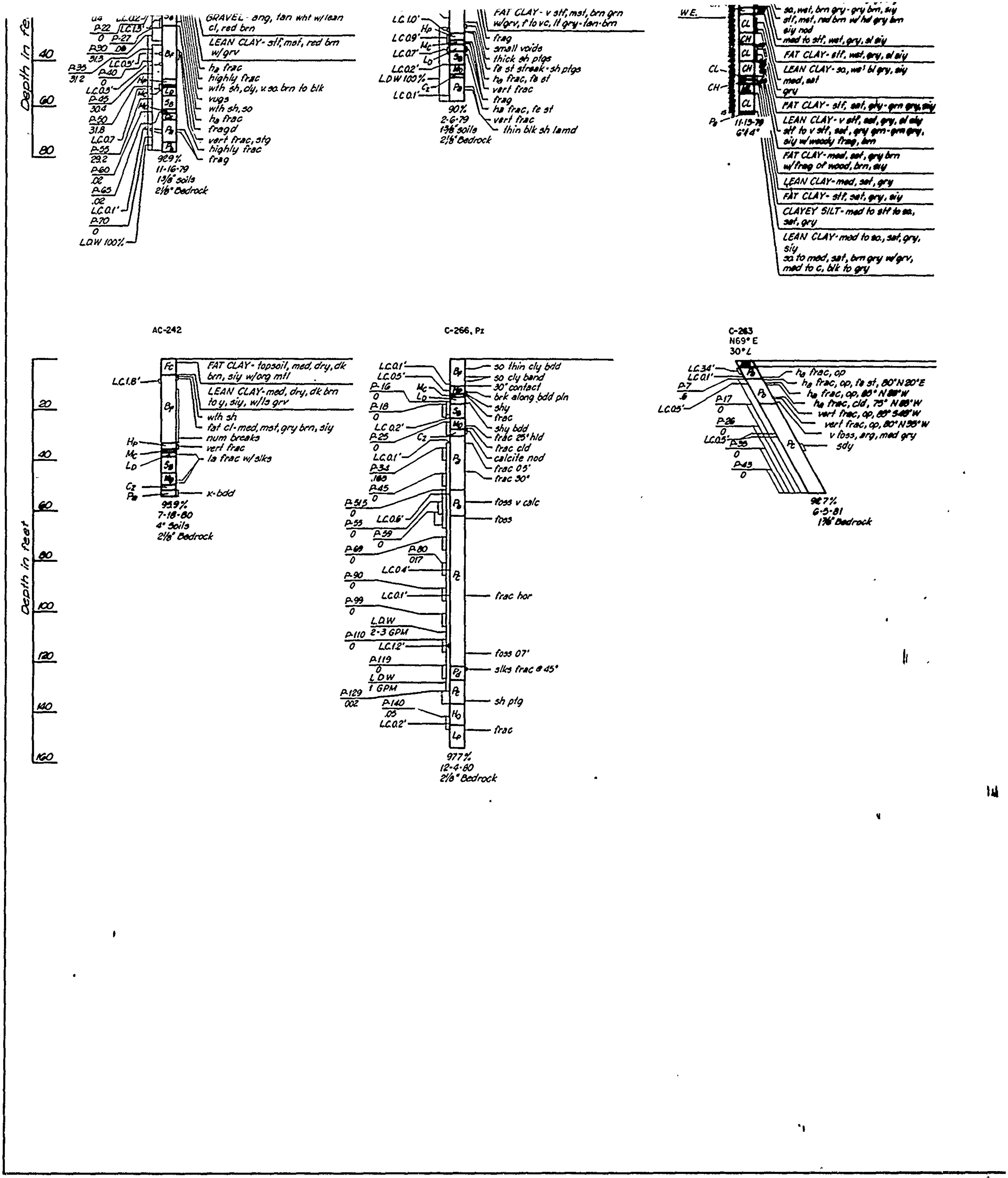
Designed by:
Drawn by:
Checked by:
Submitted by:

US Army Corps of Engineers

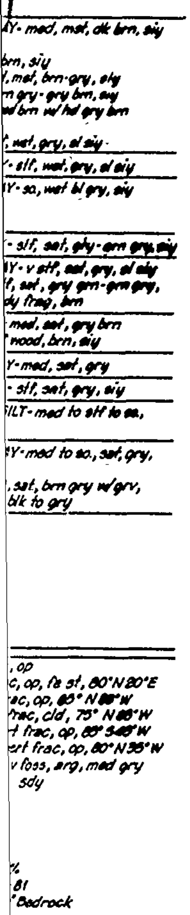
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

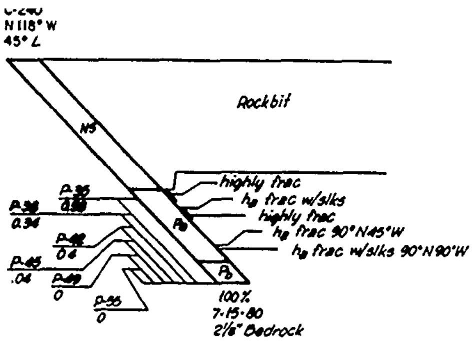
LOGS OF DETACHED BORINGS
NOS. 237 THROUGH 266

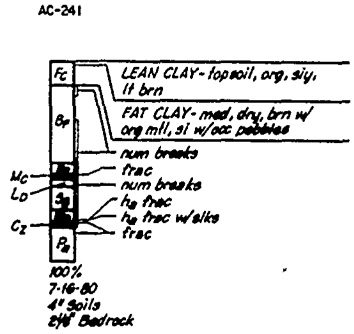
Scale: AS SHOWN
Sheet number:
Date:

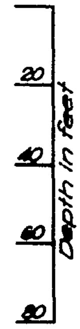


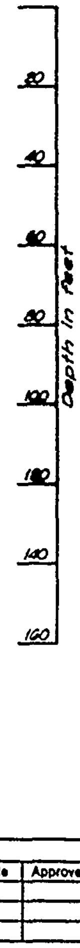
Depth in feet
40
60
80
GRAVEL - ang, tan wht w/lean cl, red brn
LEAN CLAY - stf, mst, red brn w/grv
h$_2$ frac
highly frac
wth sh, cly, v so, brn to blk
vugs
wth sh, so
h$_2$ frac
fragd
vert frac, stg
highly frac
frag
92.9%
11-16-79
1 3/8" soils
2 1/8" Bedrock
LDW 100%
FAT CLAY - v stf, mst, brn grn w/grv, f to vc, lt gry-tan-brn
frag
small voids
thick sh ptgs
fe st streak - sh ptgs
h$_2$ frac, fe st
vert frac
frag
h$_2$ frac, fe st
vert frac
thin blk sh lamd
90%
2-6-79
1 3/8" soils
2 1/8" Bedrock
LDW 100%
FAT CLAY - stf, wet, gry, sl siy
LEAN CLAY - so, wet, bl gry, siy
med, sat
gry
FAT CLAY - stf, sat, gry-grn gry, siy
LEAN CLAY - v stf, sat, gry, sl siy
stf to v stf, sat, gry grn-grn gry, siy w/woody frag, brn
FAT CLAY - med, sat, gry brn w/frag of wood, brn, siy
LEAN CLAY - med, sat, gry
FAT CLAY - stf, sat, gry, siy
CLAYEY SILT - med to stf to so, sat, gry
LEAN CLAY - med to so, sat, gry, siy
so to med, sat, brn gry w/grv, med to c, blk to gry
11-13-79
6' 4"
AC-242
FAT CLAY - topsoil, med, dry, dk brn, siy w/org mtl
LEAN CLAY - med, dry, dk brn to y, siy, w/ls grv
wth sh
fat cl - med, mst, gry brn, siy
num breaks
vert frac
la frac w/slks
x-bdd
95.9%
7-18-80
4" Soils
2 1/8" Bedrock
C-266, Pz
so thin cly bdd
so cly band
30° contact
brk along bdd pln
shy
frac
shy bdd
frac 25° hld
frac cld
calcite nod
frac 05'
frac 30°
foss v calc
foss
frac hor
foss 07'
slks frac @ 45°
sh ptg
frac
LDW 2-3 GPM
LDW 1 GPM
97.7%
12-4-80
2 1/8" Bedrock
C-263
N69° E
30° ∠
h$_2$ frac, op
h$_2$ frac, op, fe st, 80° N 20° E
h$_2$ frac, op, 85° N 88° W
h$_2$ frac, cld, 75° N 88° W
vert frac, op, 85° S 48° W
vert frac, op, 80° N 58° W
v foss, arg, med gry
sdy
98.7%
6-5-81
1 7/8" Bedrock
Depth in feet
20
40
60
80
100
120
140
160











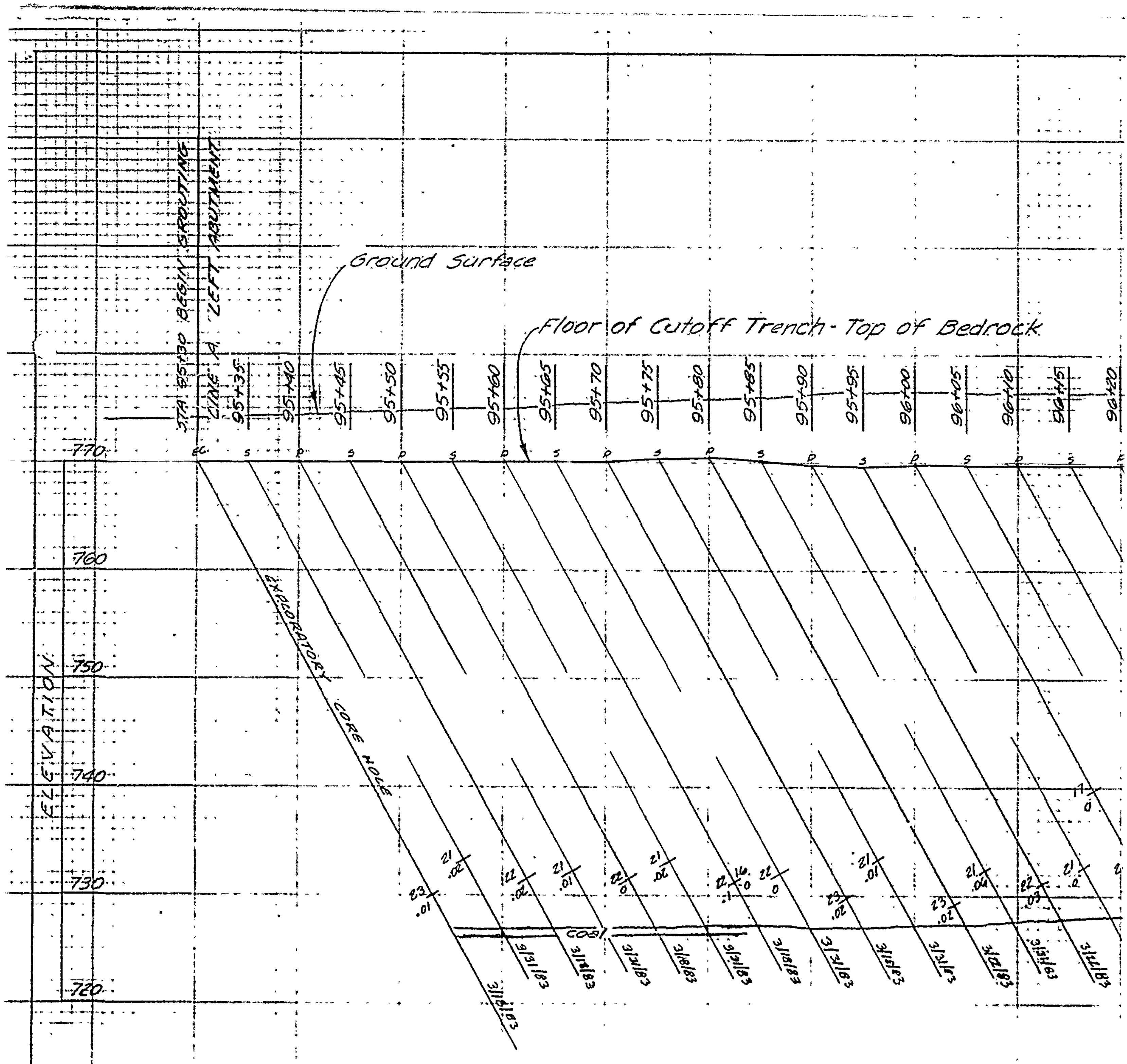
NOTE:
1. For location of boring see Dwg. E2.
2. For General Geologic Column and Legend see Dwg. E1.

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:	US Army Corps of Engineers — EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by:	LOGS OF DETACHED BORINGS NOS. 237 THROUGH 266
Checked by:	Scale: AS SHOWN — Sheet number: 43
Submitted by:	Date: JUNE 1990 — Dwg. No.: — File No.: RBL-2-1265

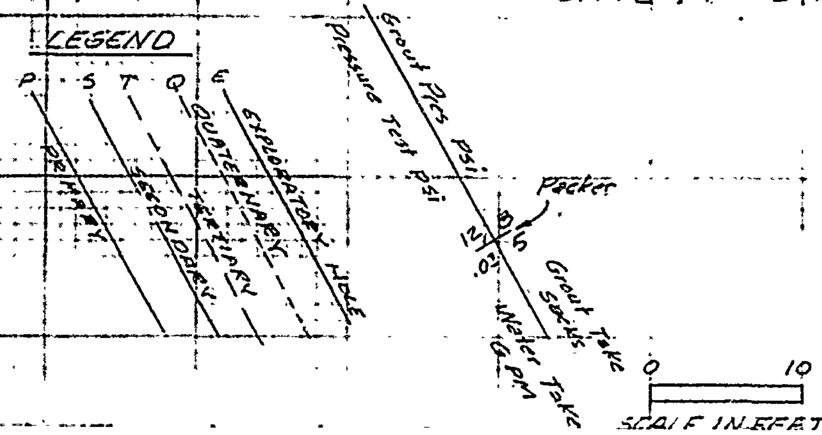
PLATE NO. 43

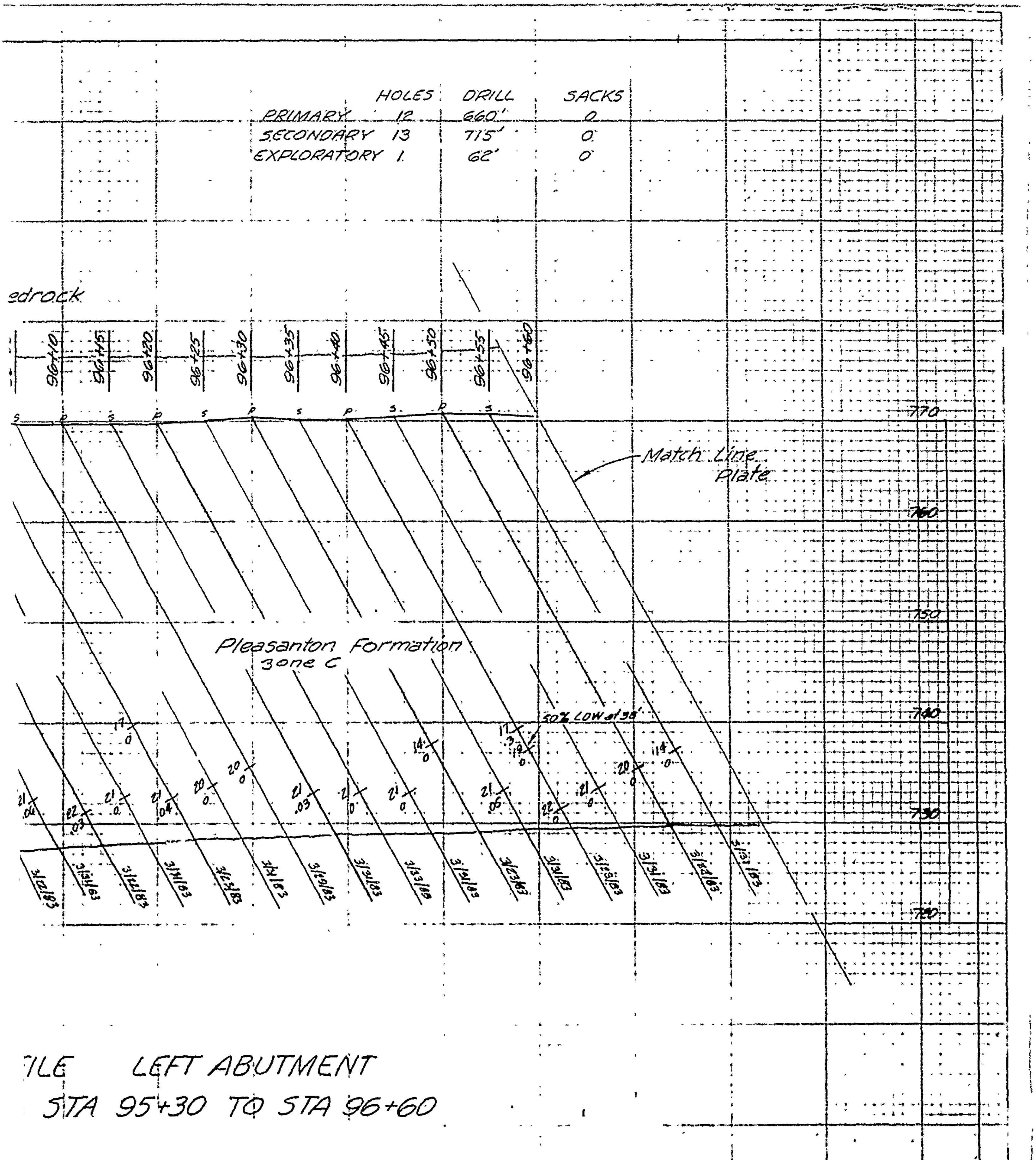


BLUE SPRINGS LAKE GROUT CURTAIN PROFILE LE

LINE A 5 FEET DOWNSTREAM STA 95

LOOKING UPSTREAM

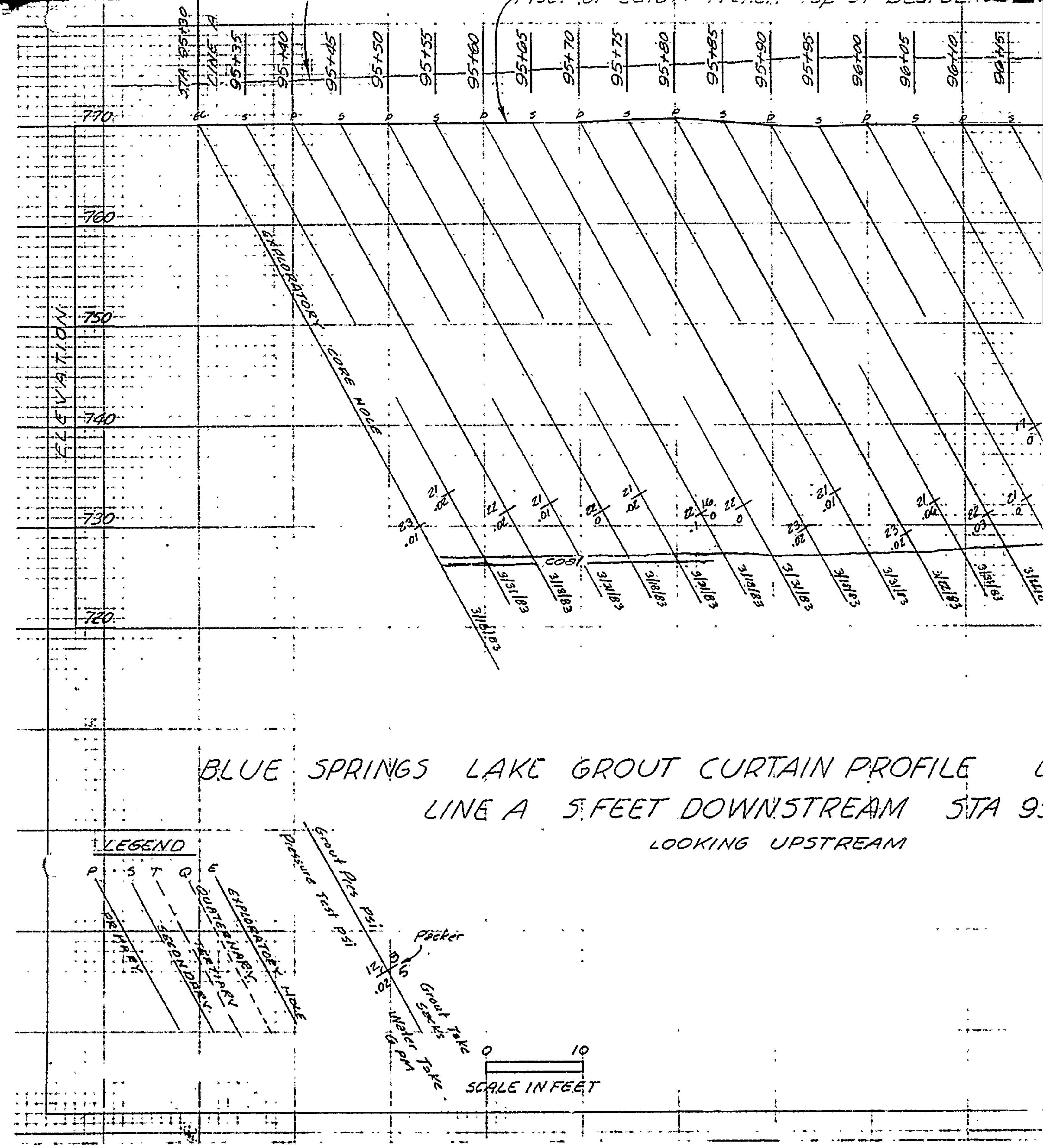




U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT
GROUT CURTAIN PROFILE
LEFT ABUTMENT LINE A
STA. 95+30 TO STA. 96+60

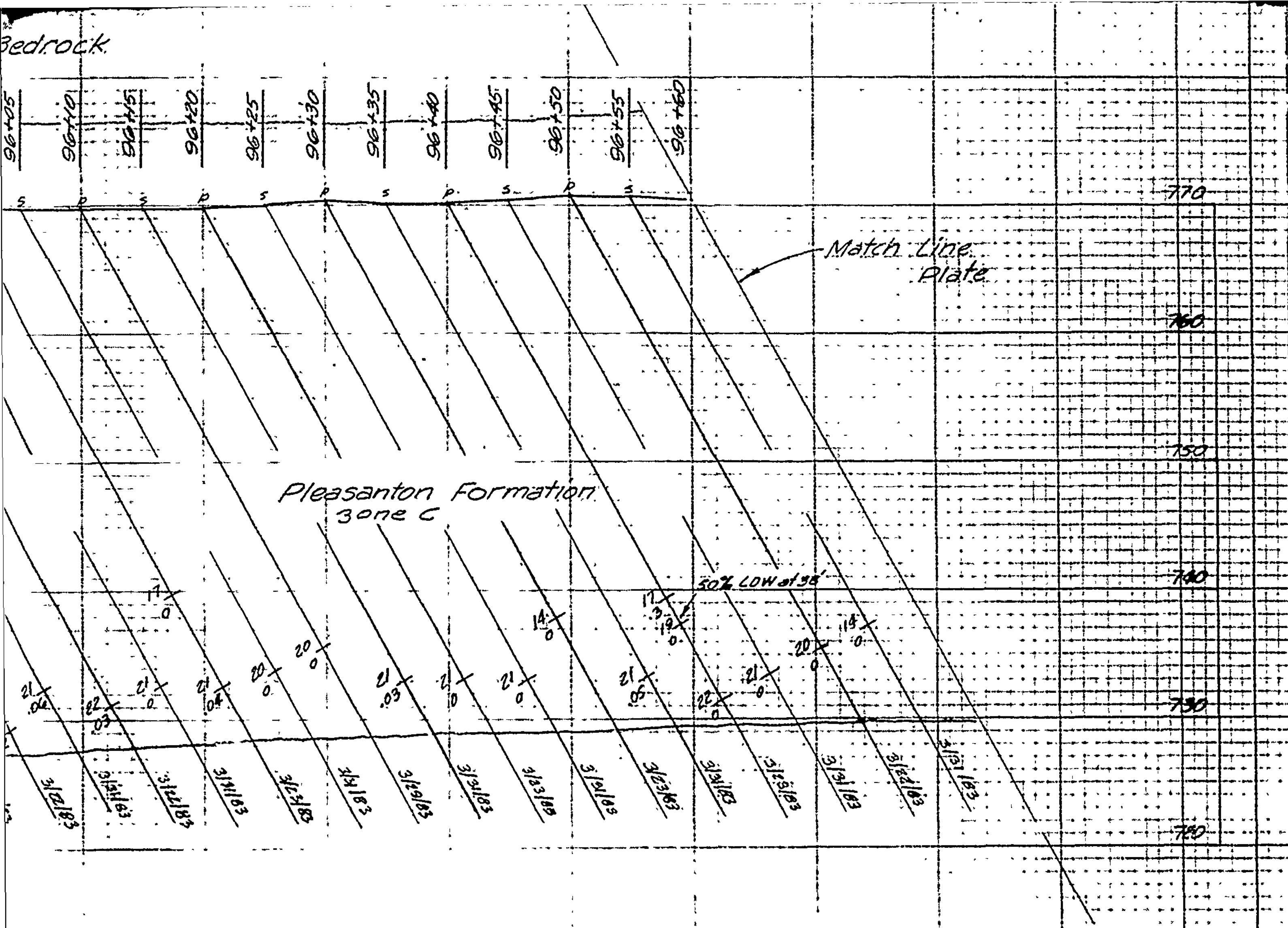
Designed by:	
Drawn by:	V.A.
Checked by:	C.H.
Scale:	AS SHOWN
Sheet number:	
Submitted by:	
Date:	JUNE 1990



BLUE SPRINGS LAKE GROUT CURTAIN PROFILE

LINE A 5 FEET DOWNSTREAM STA 9

LOOKING UPSTREAM

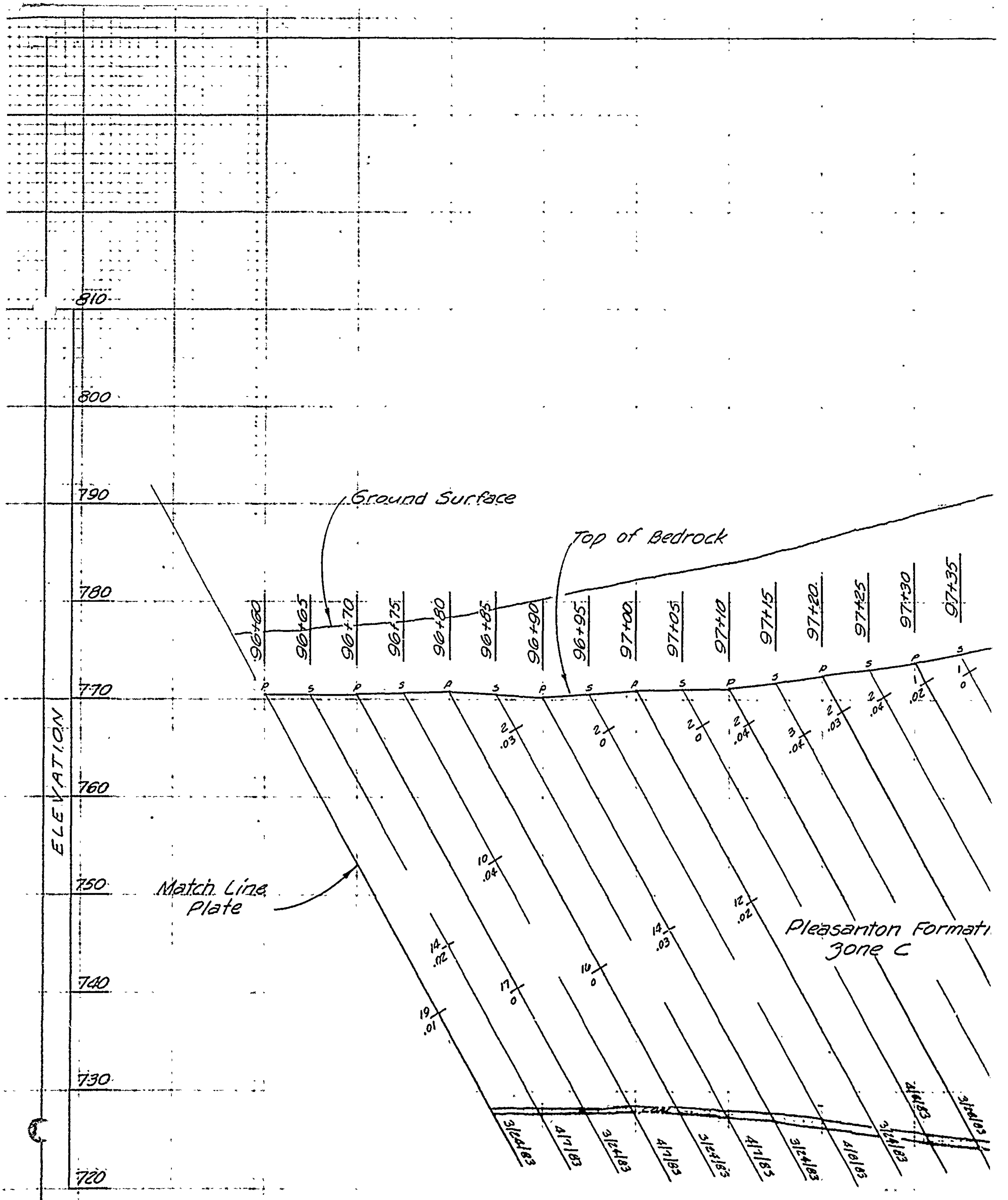


FILE LEFT ABUTMENT
STA 95+30 TO STA 96+60

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT GROUT CURTAIN PROFILE LEFT ABUTMENT LINE A STA. 95+30 TO STA. 96+60
Drawn by: V.A.	
Checked by: C.H.	Scale: AS SHOWN
Submitted by:	Date: JUNE 1990
	Sheet Number: 44
	Dwg. No.:
	File No.: RBL-2-1264

PLATE NO. 44



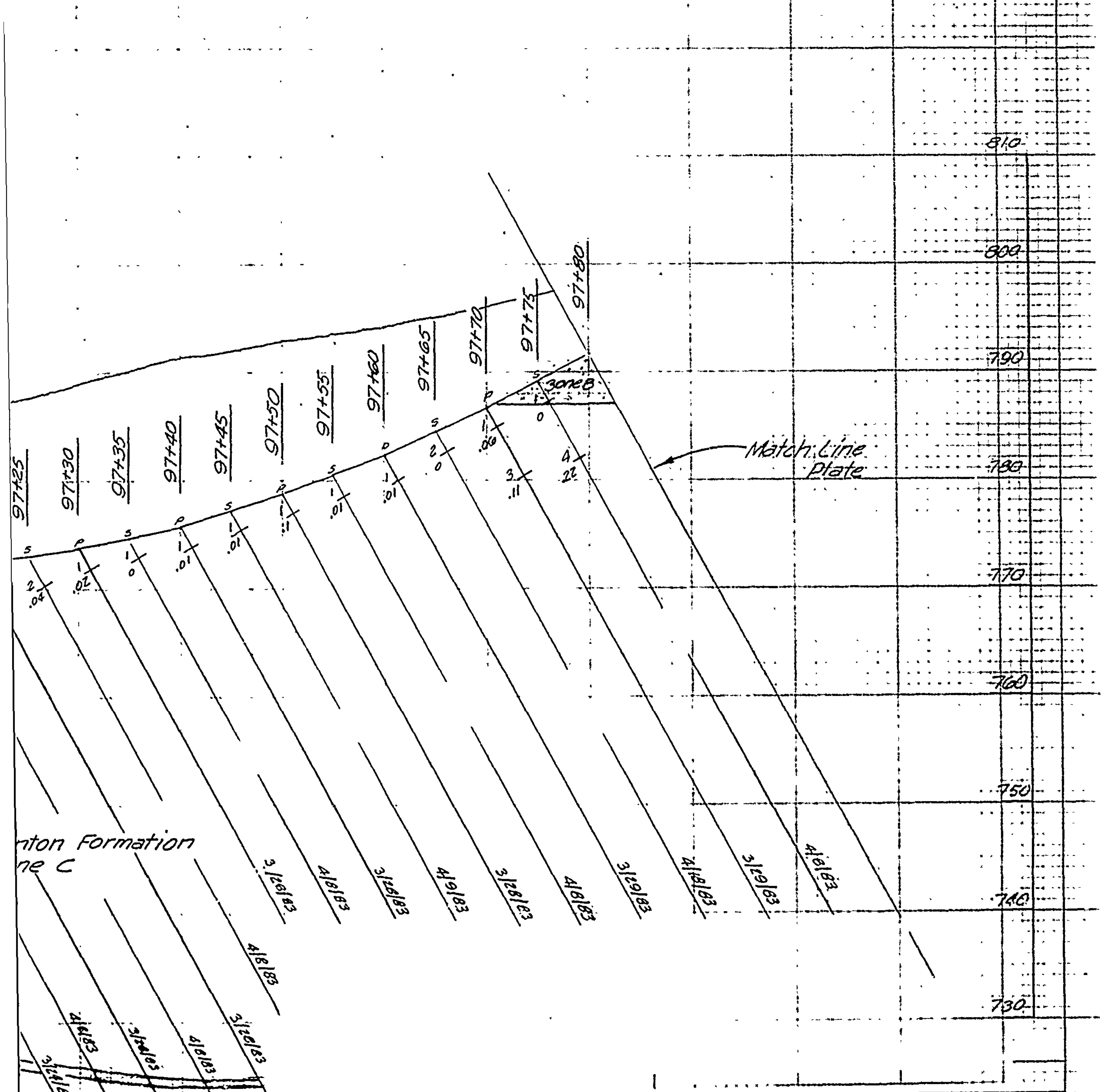
BLUE SPRINGS LAKE GROUT CURTAIN PROFILE L

LINE A 5 FEET DOWNSTREAM STA 96+

LOOKING UPSTREAM

0 10

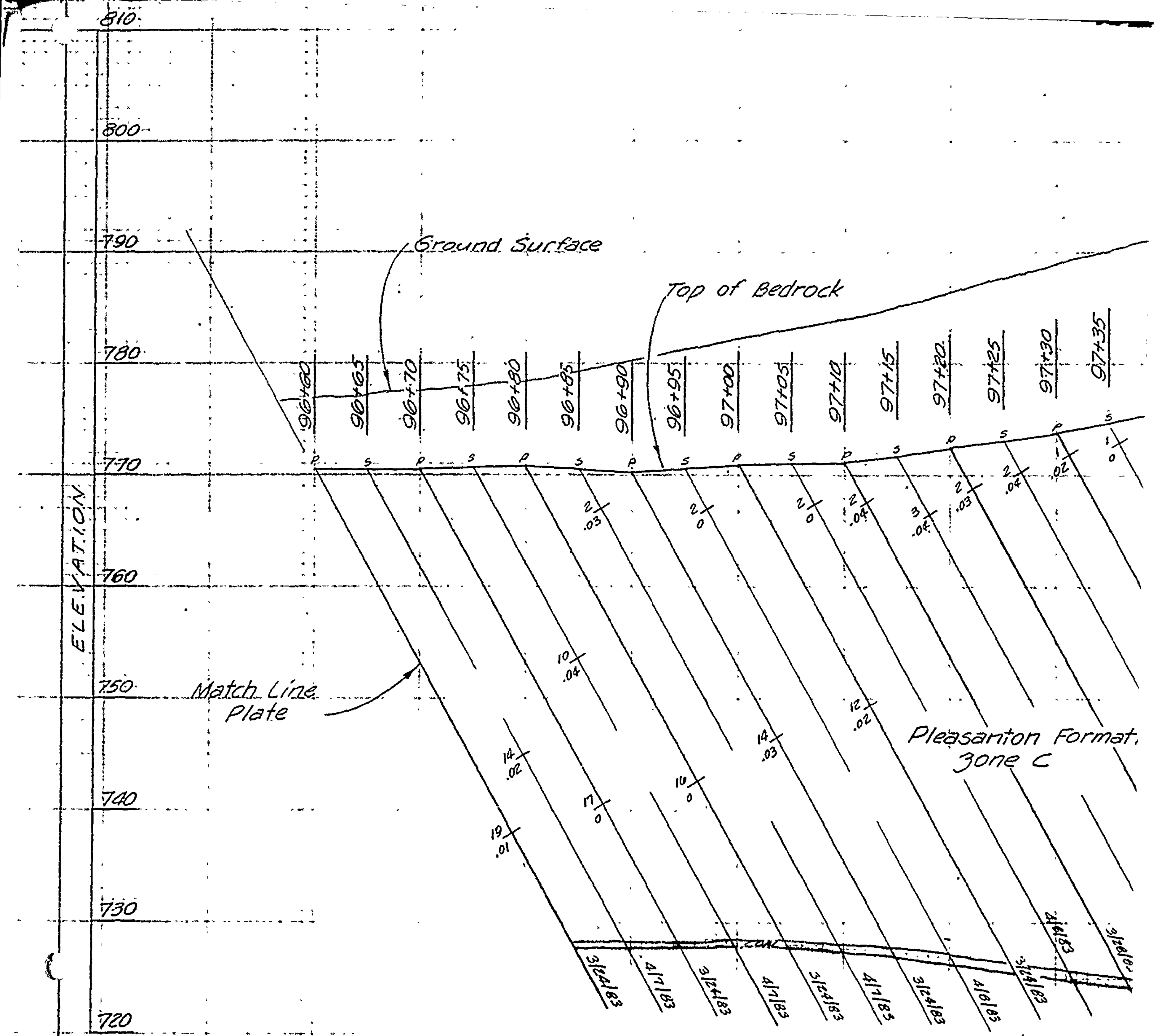
	HOLES	DRILL	SACKS
PRIMARY	12	626'	0
SECONDARY	12	643'	0



OFILE LEFT ABUTMENT
STA 96+60 TO STA 97+80

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by: V.A.	GROUT CURTAIN PROFILE LEFT ABUTMENT LINE A STA. 96+60 TO STA. 97+80
Checked by: C.H.	Scale: AS SHOWN — Sheet number:



BLUE SPRINGS LAKE GROUT CURTAIN PROFILE

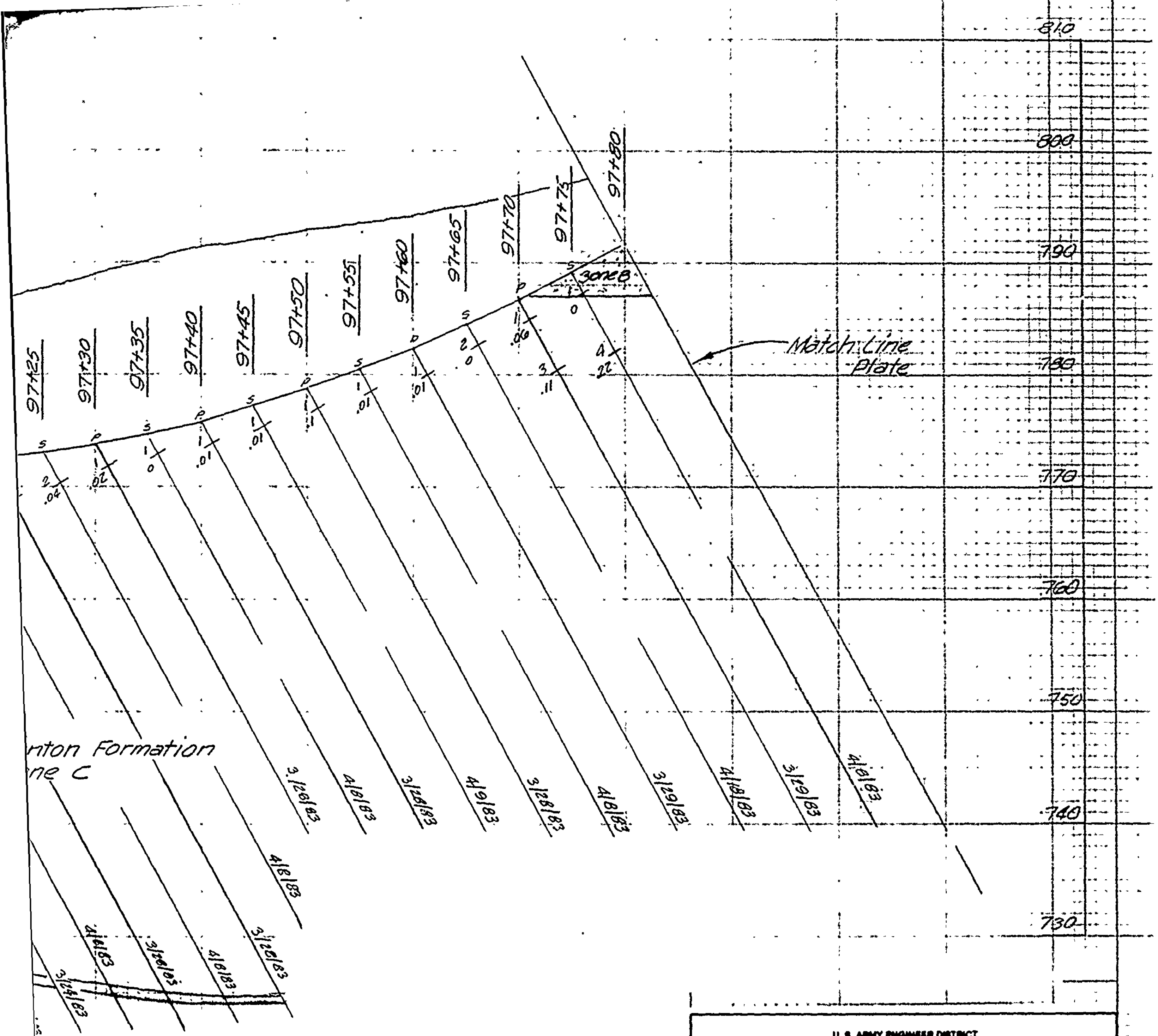
LINE A 5 FEET DOWNSTREAM STA 96

LOOKING UPSTREAM

0 10

SCALE IN FEET

for legend see



OFILE LEFT ABUTMENT
STA 96+60 TO STA 97+80

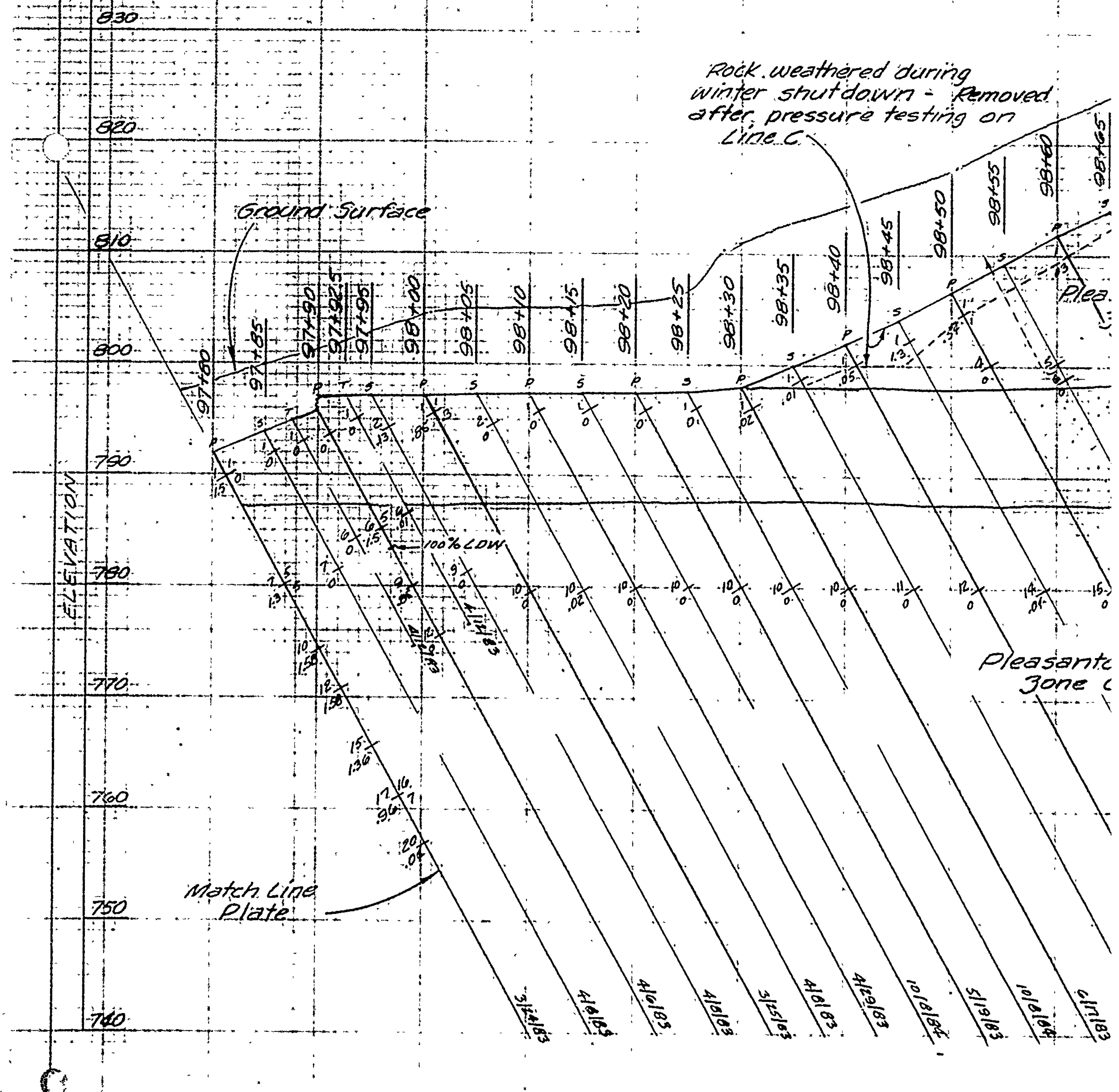
egend see Plate 44

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by: V.A.	GROUT CURTAIN PROFILE LEFT ABUTMENT LINE A STA. 96+60 TO STA. 97+80
Checked by: C.H.	Scale: AS SHOWN — Sheet number: 45
Submitted by:	Date: JUNE 1990 — File No.: RBL-2-1265

PLATE NO. 45

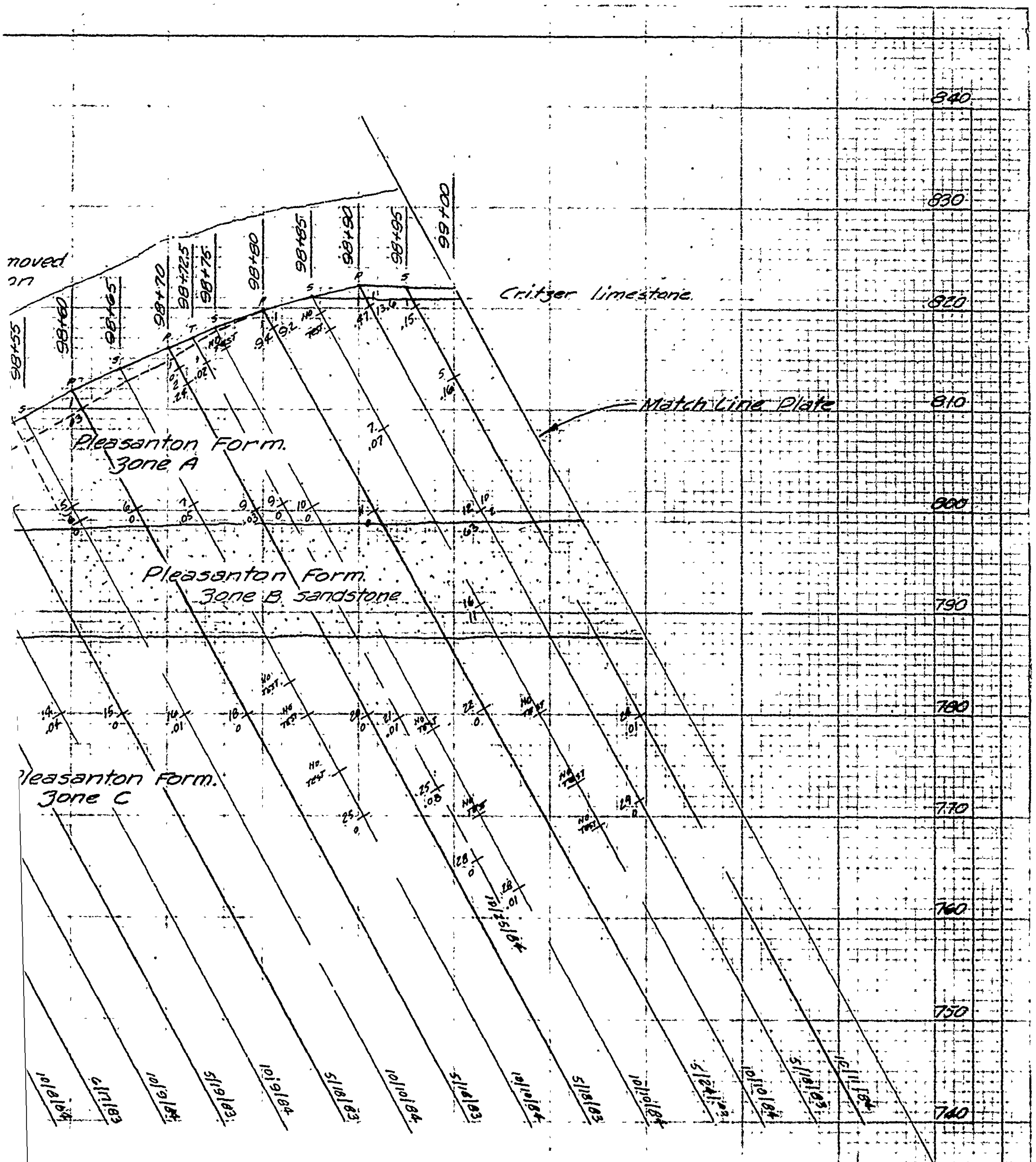
	HOLES	DRILL	SACKS
PRIMARY	12	900'	38.1
SECONDARY	12	918'	0
TERTIARY	3	111'	0



BLUE SPRINGS LAKE GROUT CURTAIN PROFILE

LINE A 5 FEET DOWNSTREAM STA 9

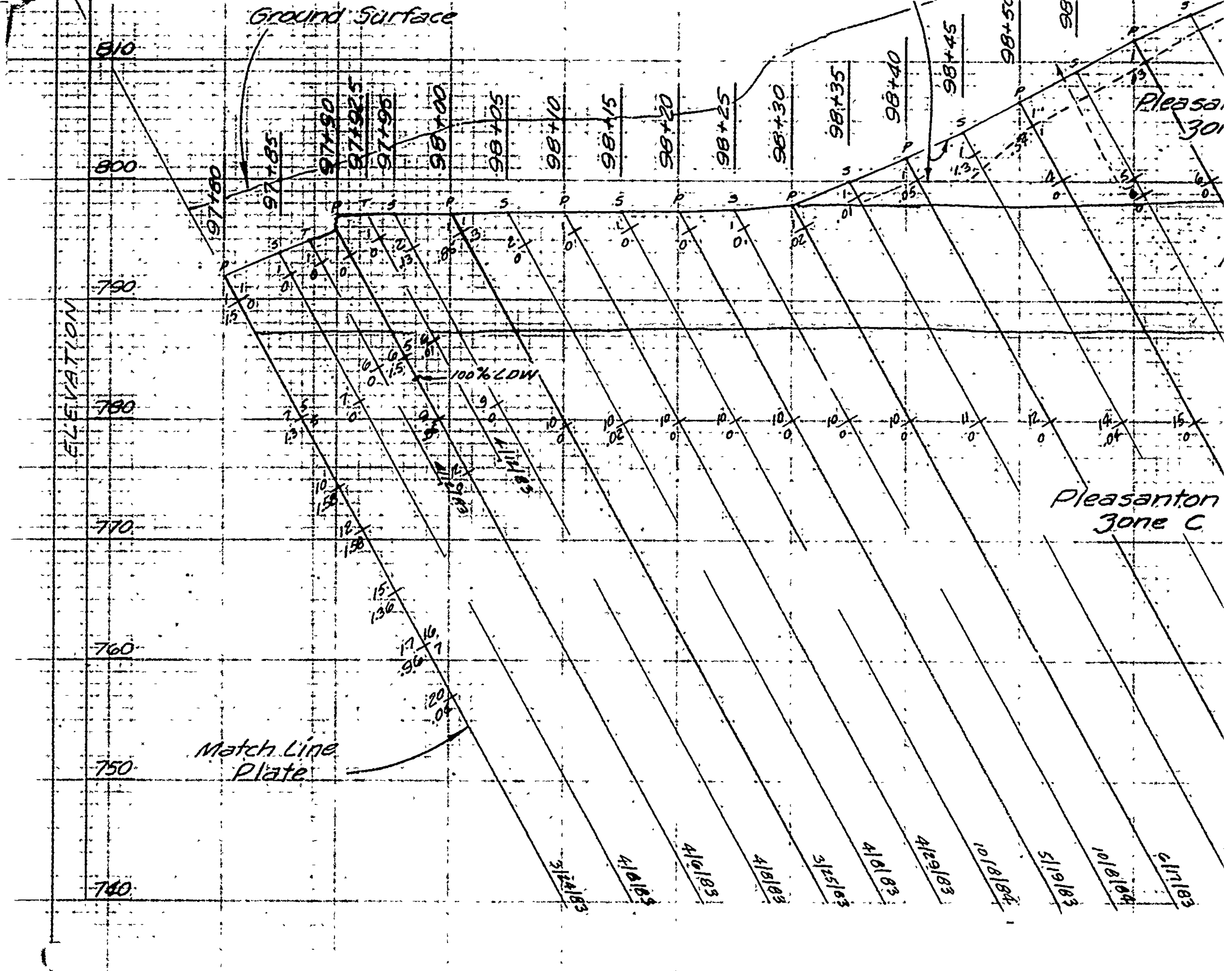
LOOKING UPSTREAM



OFILE LEFT ABUTMENT
STA 97+80 TO STA 99+00

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by: V.A.	GROUT CURTAIN PROFILE LEFT ABUTMENT LINE A STA 97+80 TO STA 99+00
Checked by:	



BLUE SPRINGS LAKE GROUT CURTAIN PROFILE

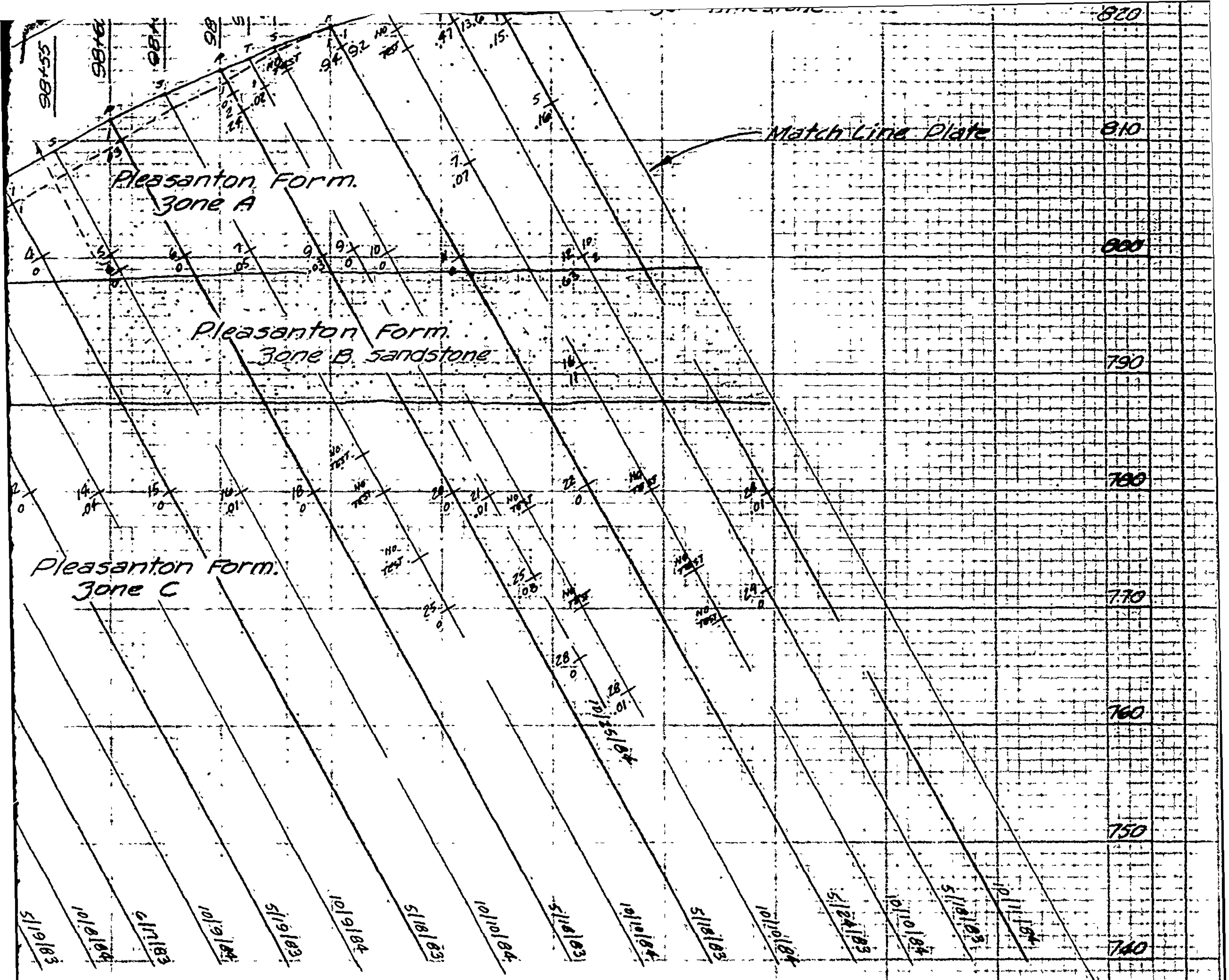
LINE A 5 FEET DOWNSTREAM STA 97-

LOOKING UPSTREAM

0 10

SCALE IN FEET

for legend see Plate



PROFILE LEFT ABUTMENT

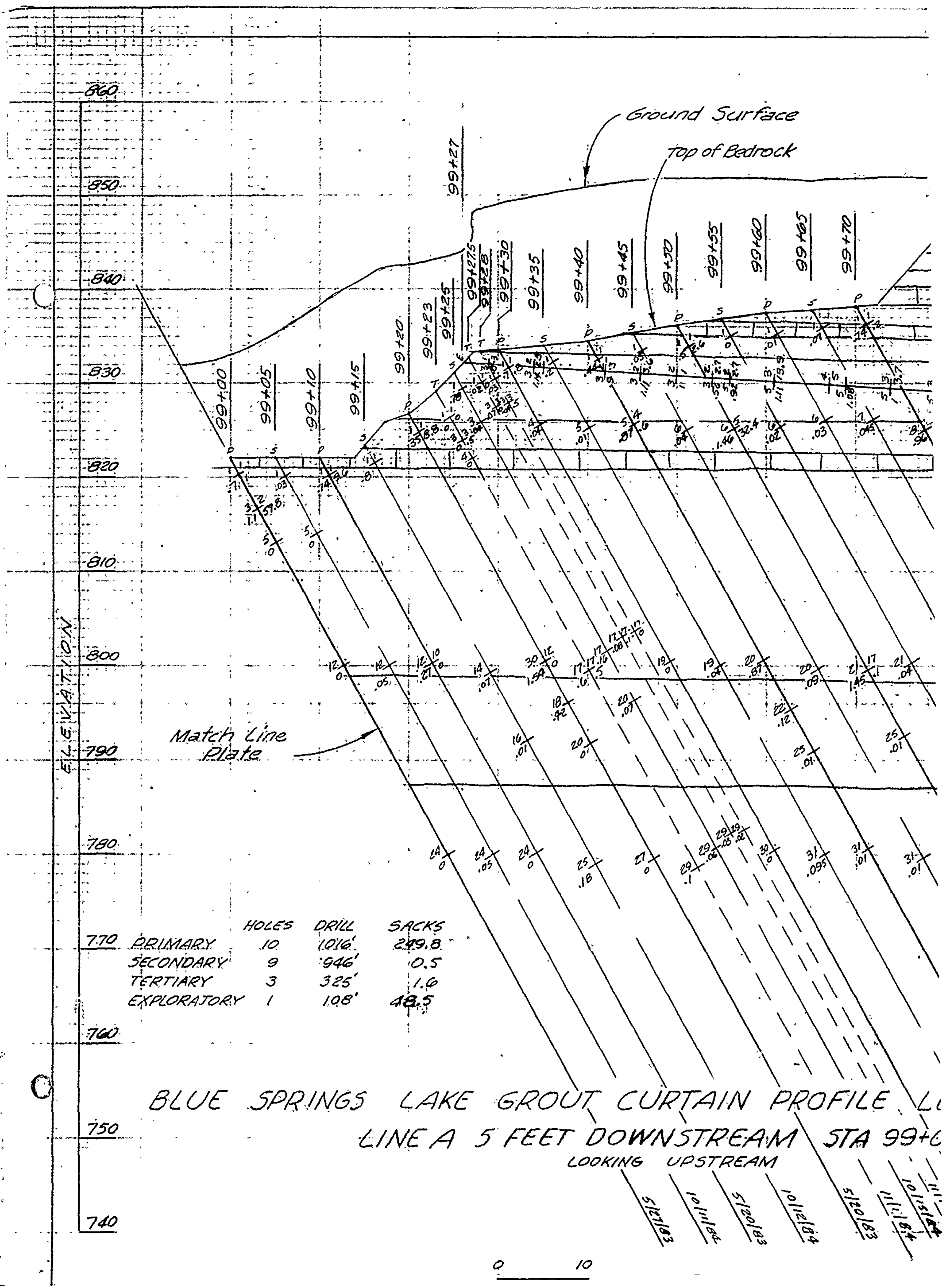
STA 97+80 TO STA 99+00

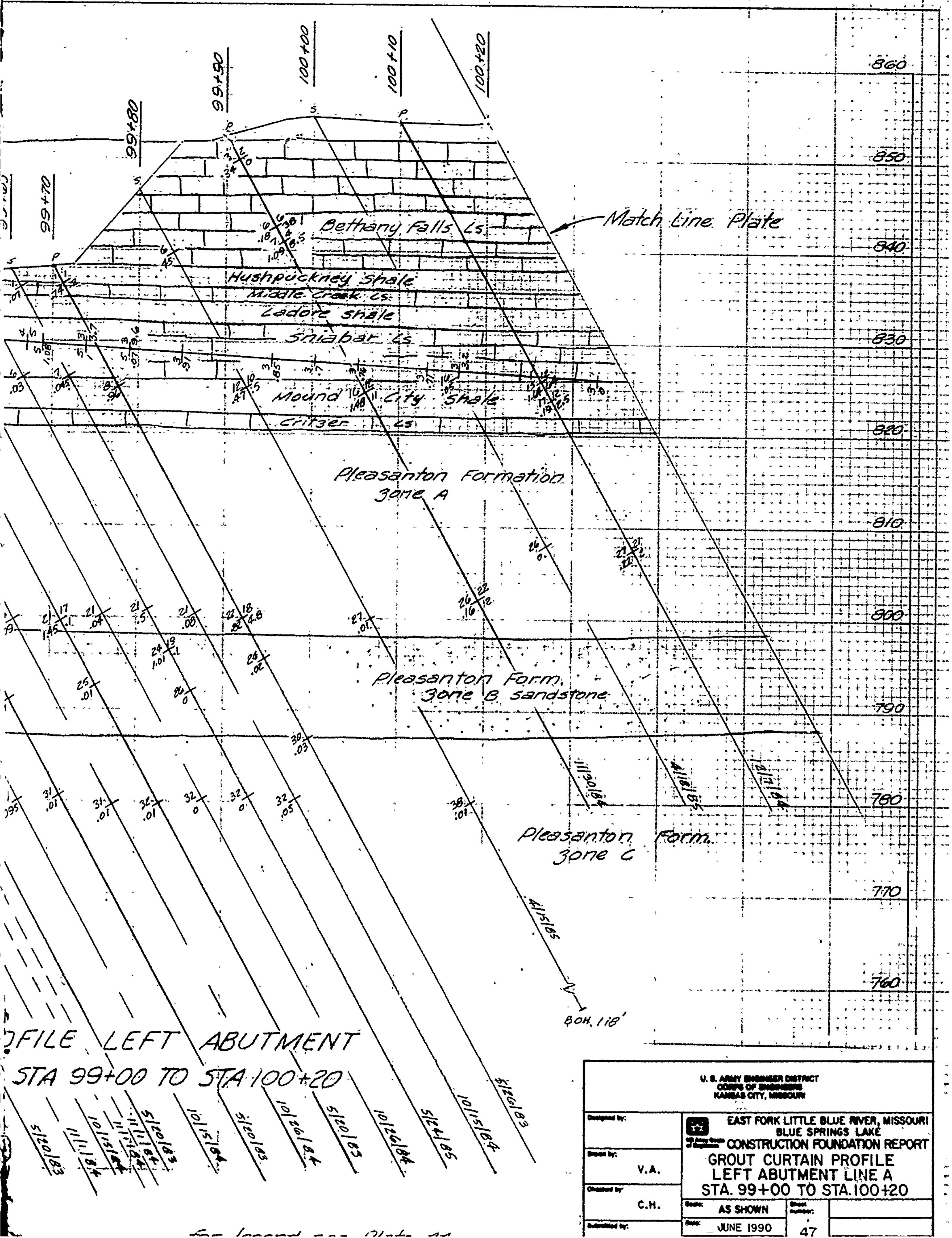
end see Plate 44

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by: V.A.	GROUT CURTAIN PROFILE LEFT ABUTMENT LINE A STA. 97+80 TO STA. 99+00
Checked by: C.H.	Scale: AS SHOWN
Submitted by:	Date: JUNE 1990
	Sheet number: 46
	File No.: RBL-2-1266

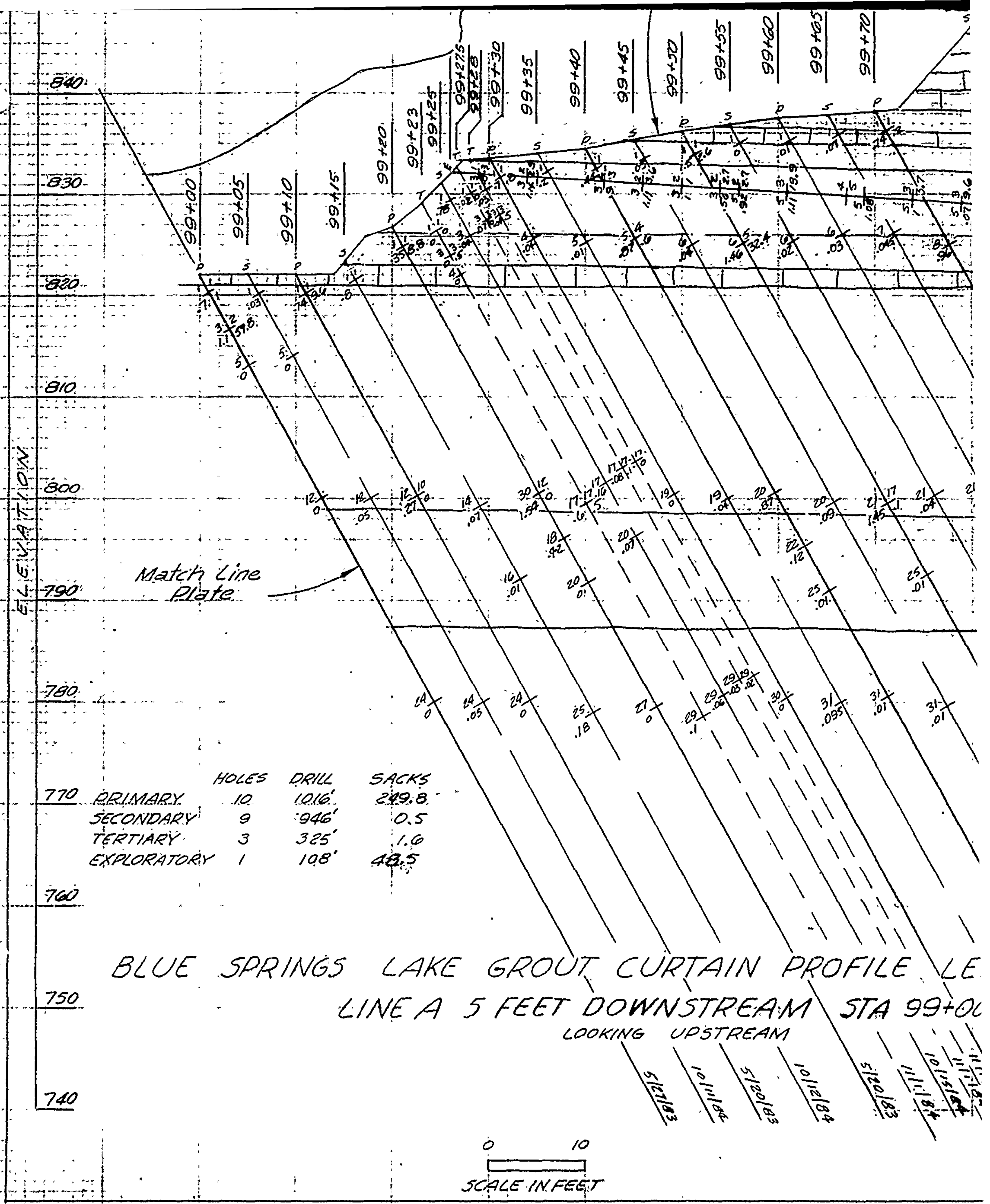
PLATE NO. 46


BLUE SPRINGS LAKE GROUT CURTAIN PROFILE L
LINE A 5 FEET DOWNSTREAM STA 99+0
LOOKING UPSTREAM
Ground Surface
Top of Bedrock
Match Line Plate
ELEVATION
860
850
840
830
820
810
800
790
780
770
760
750
740
99+00
99+05
99+10
99+15
99+20
99+23
99+25
99+27
99+27.5
99+28
99+30
99+35
99+40
99+45
99+50
99+55
99+60
99+65
99+70
HOLES DRILL SACKS
PRIMARY 10 1016' 249.8
SECONDARY 9 946' 0.5
TERTIARY 3 325' 1.6
EXPLORATORY 1 108' 48.5
5/27/83
10/11/84
5/20/83
10/12/84
5/20/83
11/1/84
10/15/84
0 10



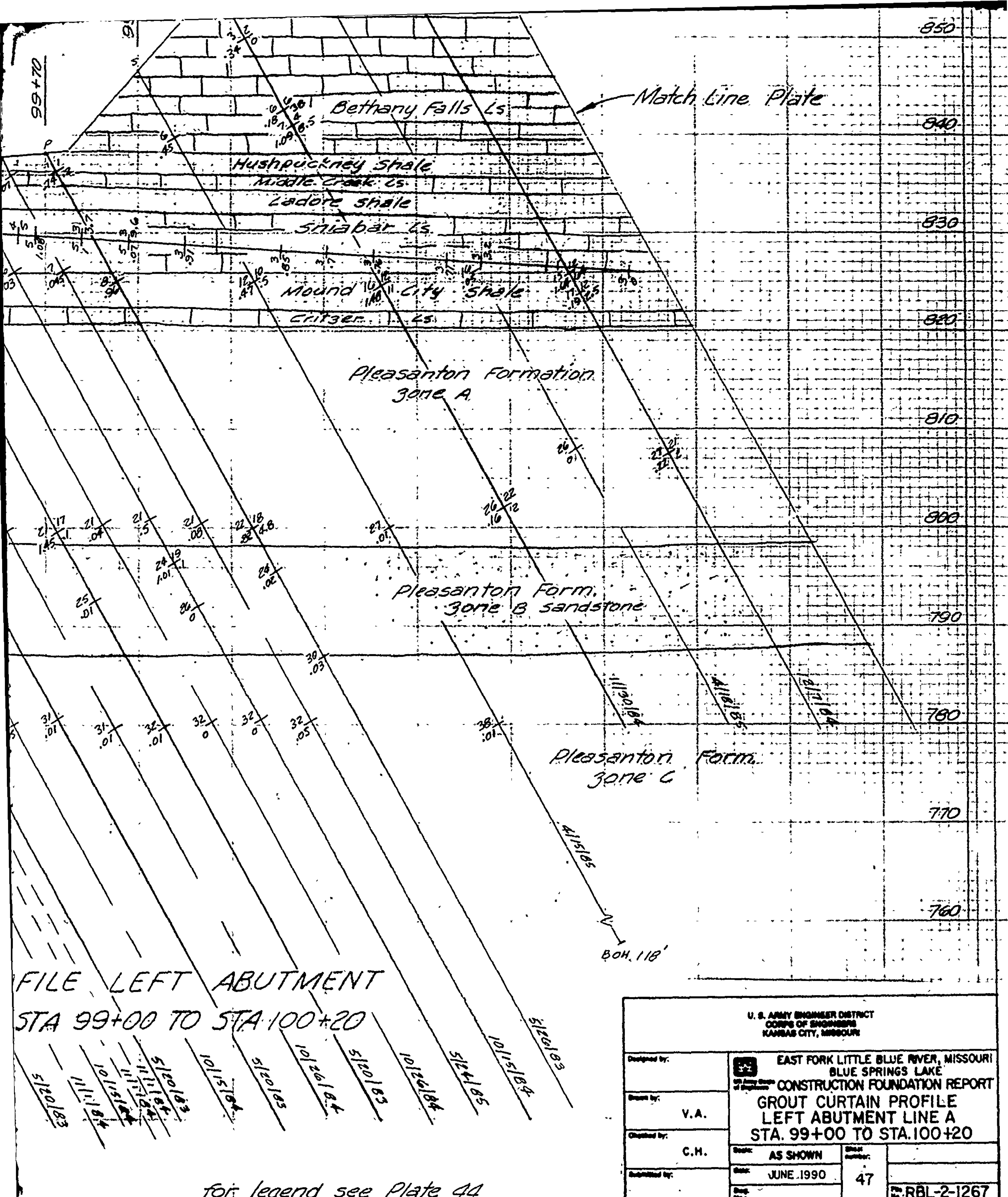
U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by: V.A.	GROUT CURTAIN PROFILE LEFT ABUTMENT LINE A STA. 99+00 TO STA.100+20
Checked by: C.H.	Scale: AS SHOWN — Sheet number: 47
Submitted by:	Date: JUNE 1990



BLUE SPRINGS LAKE GROUT CURTAIN PROFILE LE
LINE A 5 FEET DOWNSTREAM STA 99+0
LOOKING UPSTREAM

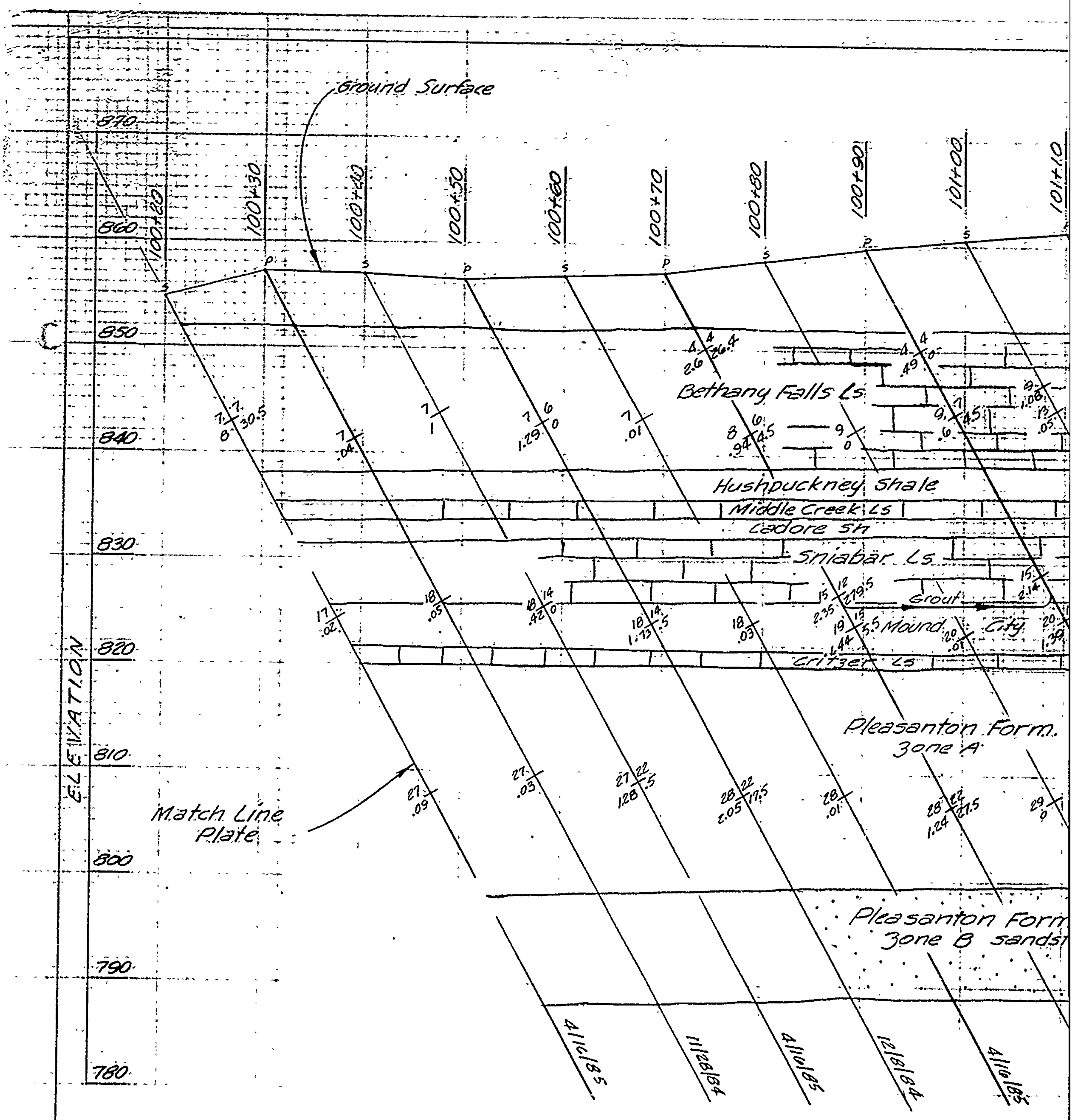
	HOLES	DRILL	SACKS
PRIMARY	10	1016'	249.8
SECONDARY	9	946'	0.5
TERTIARY	3	325'	1.6
EXPLORATORY	1	108'	48.5



U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by: V.A.	GROUT CURTAIN PROFILE LEFT ABUTMENT LINE A STA. 99+00 TO STA.100+20
Checked by: C.H.	Scale: AS SHOWN; Sheet number: 47
Submitted by:	Date: JUNE 1990; File No.: RBL-2-1267

PLATE NO. 47

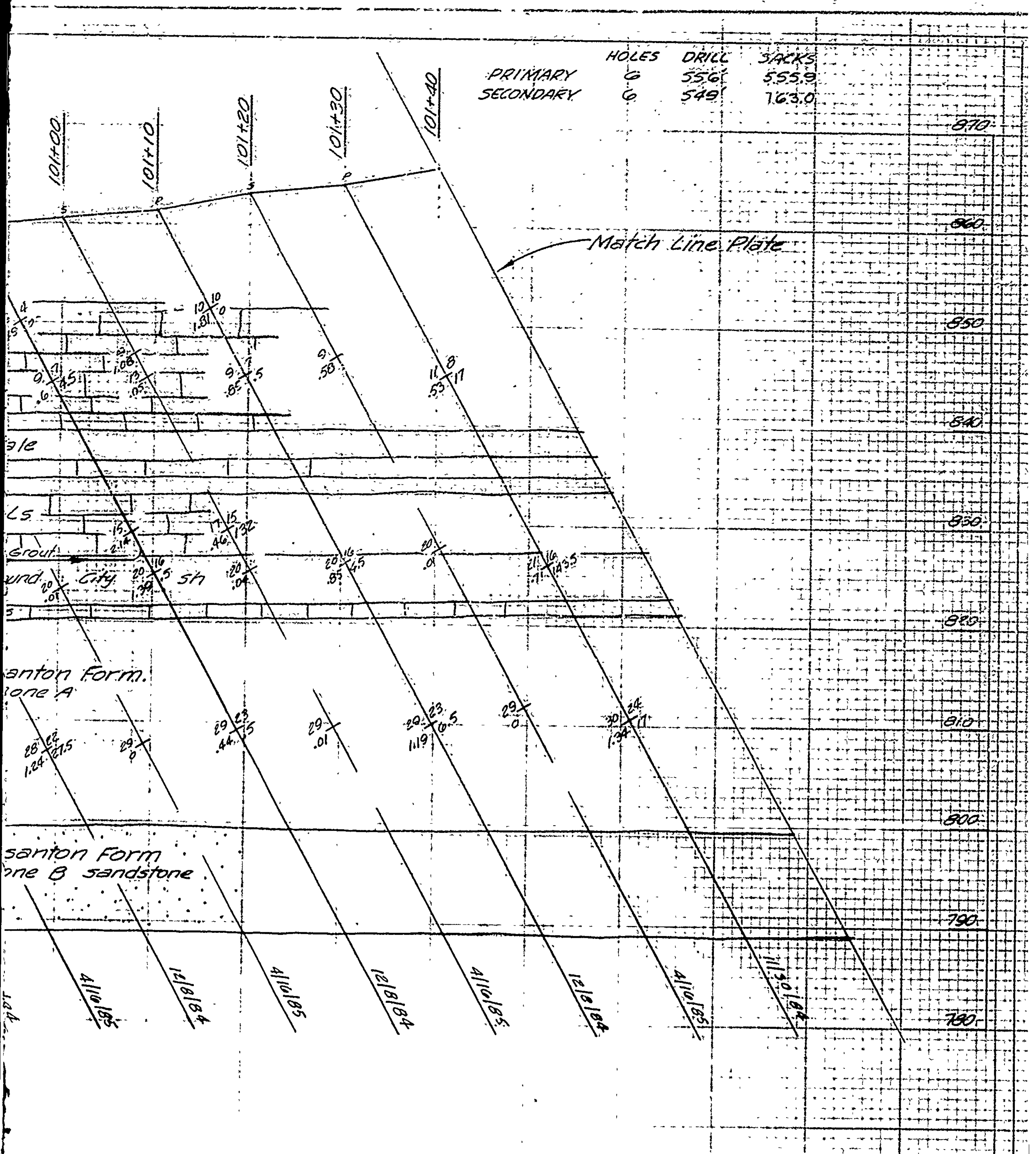


BLUE SPRINGS LAKE GROUT CURTAIN PROFIL

LINE A 5 FEET DOWNSTREAM STA

LOOKING UPSTREAM

0 10

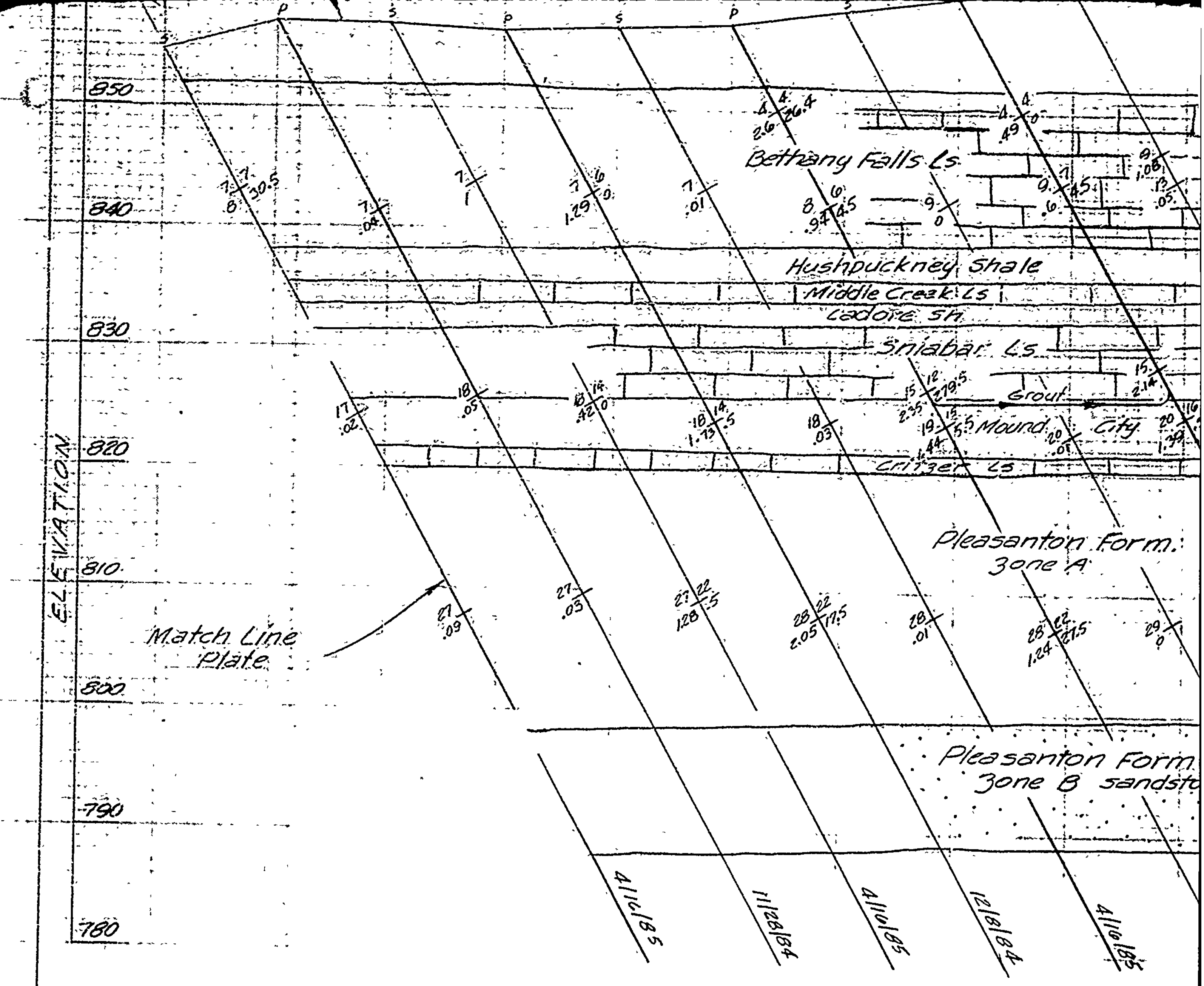


N PROFILE LEFT ABUTMENT

EAM STA 100+20 TO STA 101+40

EAM

U. S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS KANSAS CITY, MISSOURI	
Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by: V.A.	GROUT CURTAIN PROFILE LEFT ABUTMENT LINE A STA 100+20 TO STA 101+40
Checked by:	



BLUE SPRINGS LAKE GROUT CURTAIN PROFIL

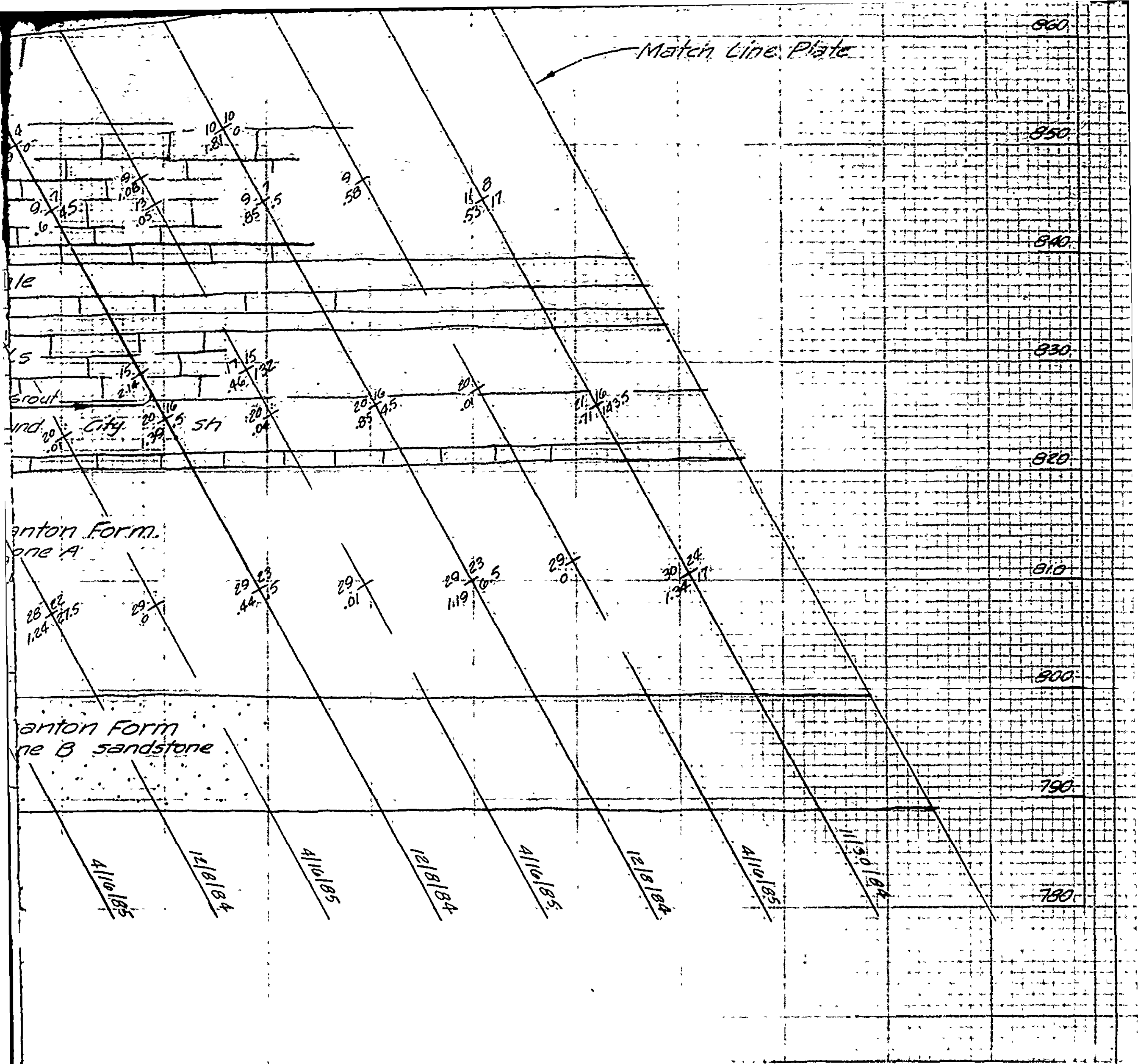
LINE A 5 FEET DOWNSTREAM STA

LOOKING UPSTREAM

0 10

SCALE IN FEET

for le



N PROFILE LEFT ABUTMENT

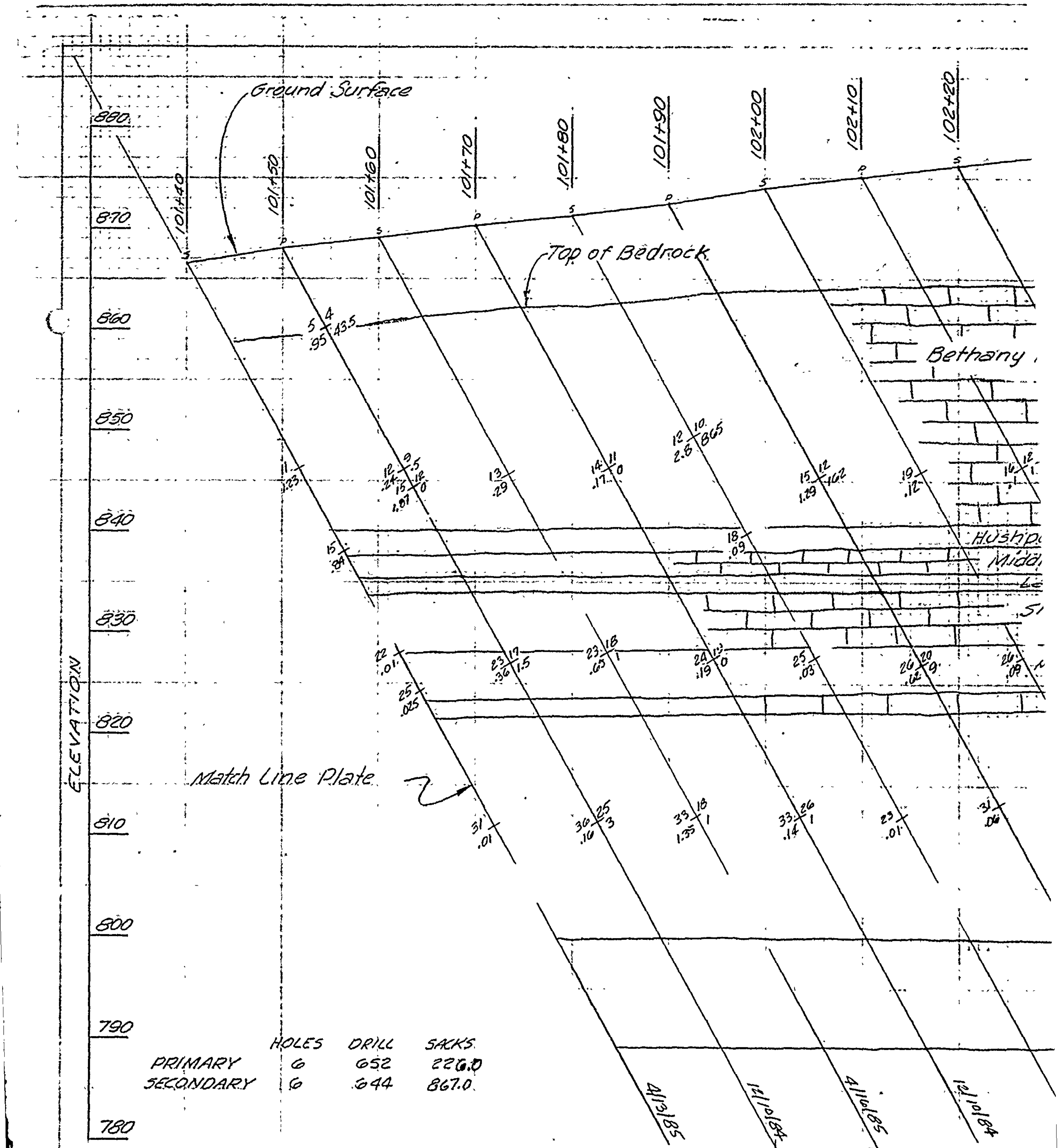
EAM STA 100+20 TO STA 101+40

EAM

for legend see Plate 44

U. S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS KANSAS CITY, MISSOURI	
Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT GROUT CURTAIN PROFILE LEFT ABUTMENT LINE A STA. 100+20 TO STA. 101+40
Drawn by: V.A.	
Checked by: C.H.	Scale: AS SHOWN — Sheet number: 48
Submitted by:	Date: JUNE 1990 — File No.: RBL-2-1268

PLATE NO. 48

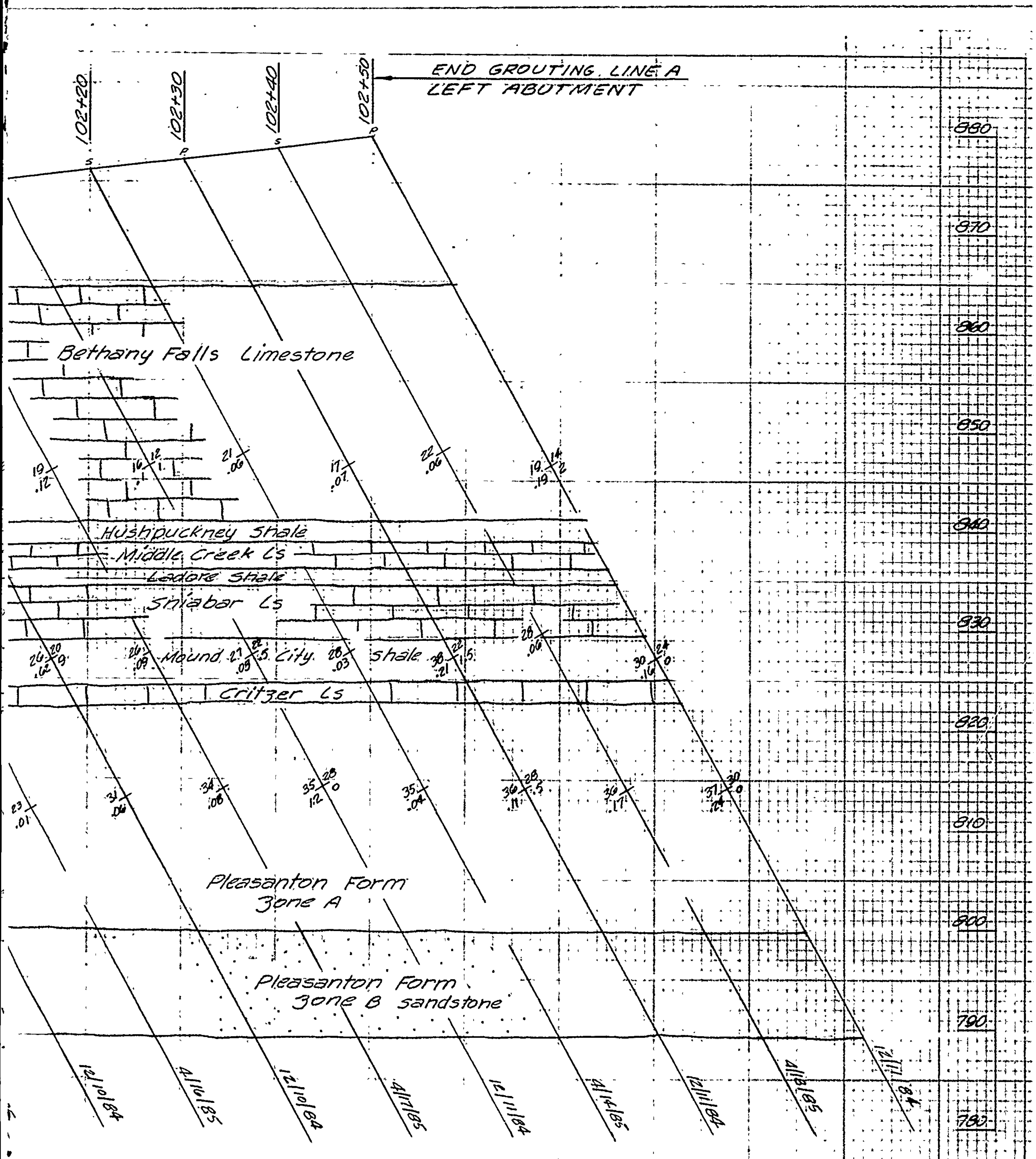


BLUE SPRINGS LAKE GROUT CURTAIN PROFIL

LINE A 5 FEET DOWNSTREAM STA

LOOKING UPSTREAM

0 10



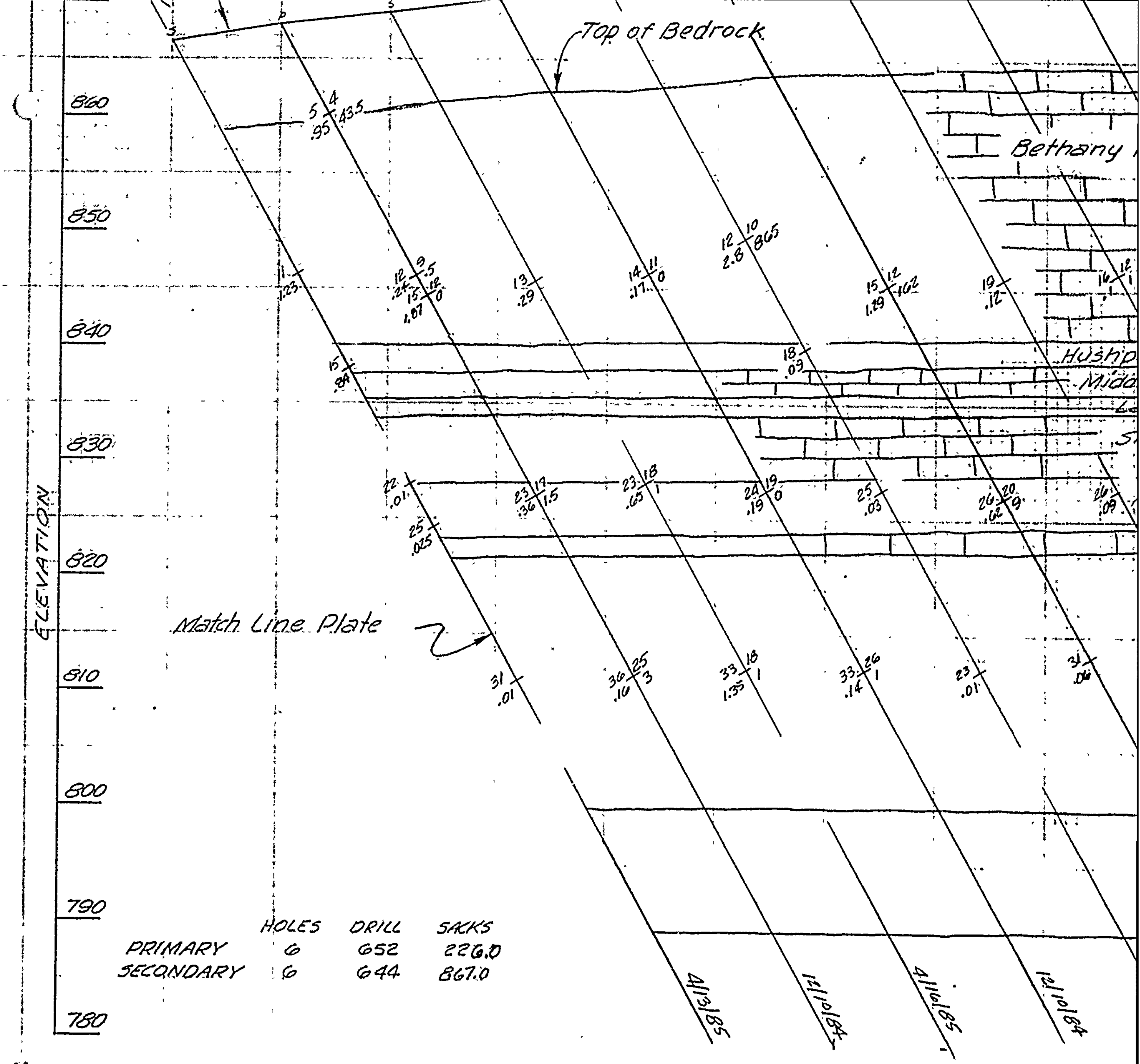
AIN PROFILE LEFT ABUTMENT

TREAM STA 101+40 TO STA 102+50

TREAM

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by: V.A.	GROUT CURTAIN PROFILE LEFT ABUTMENT LINE A STA 101+40 TO STA 102+50
Checked by:	



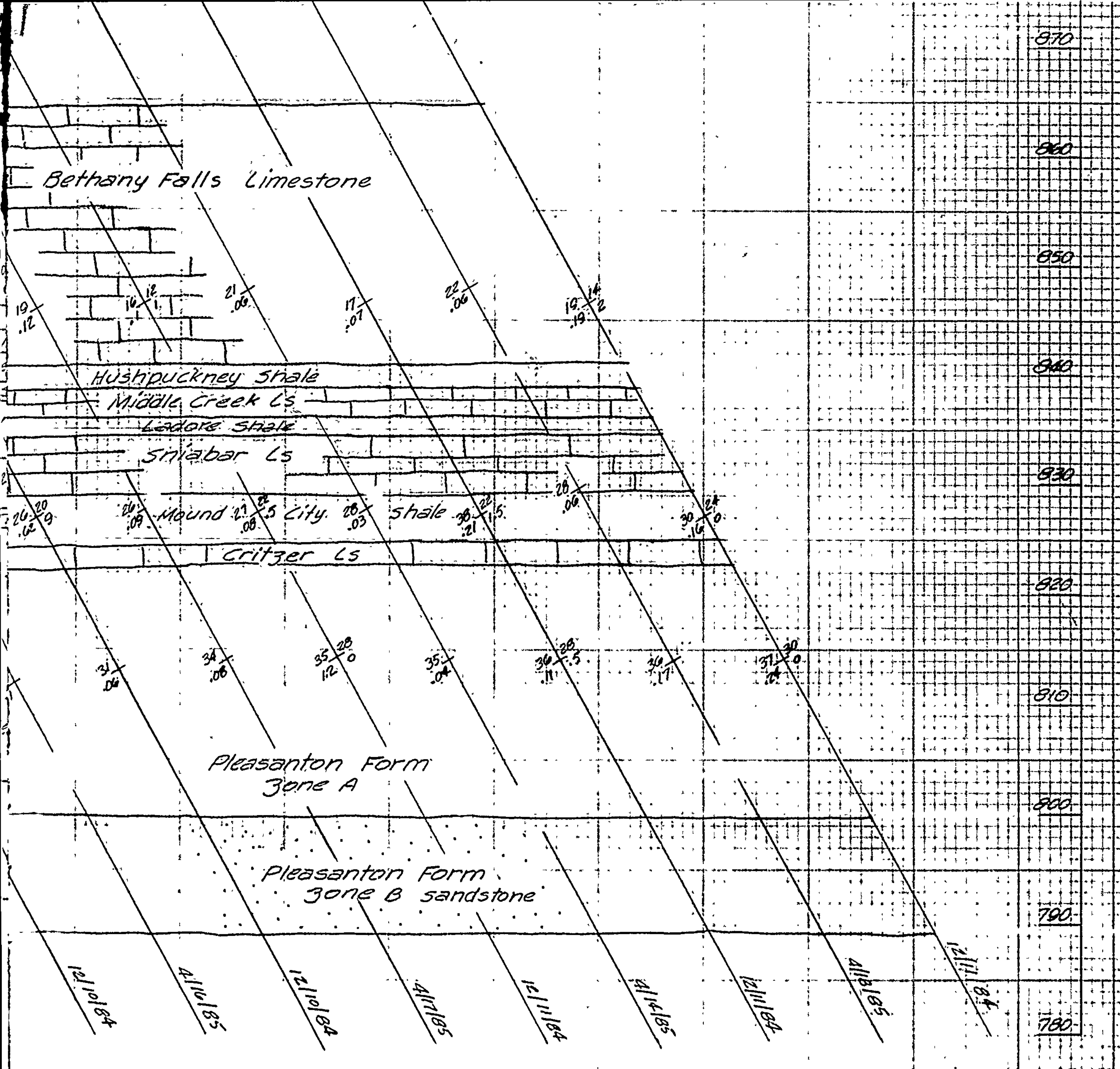
BLUE SPRINGS LAKE GROUT CURTAIN PROFI

LINE A 5 FEET DOWNSTREAM ST

LOOKING UPSTREAM

0 10

SCALE IN FEET



IN PROFILE LEFT ABUTMENT

REAM STA 101+40 TO STA 102+50

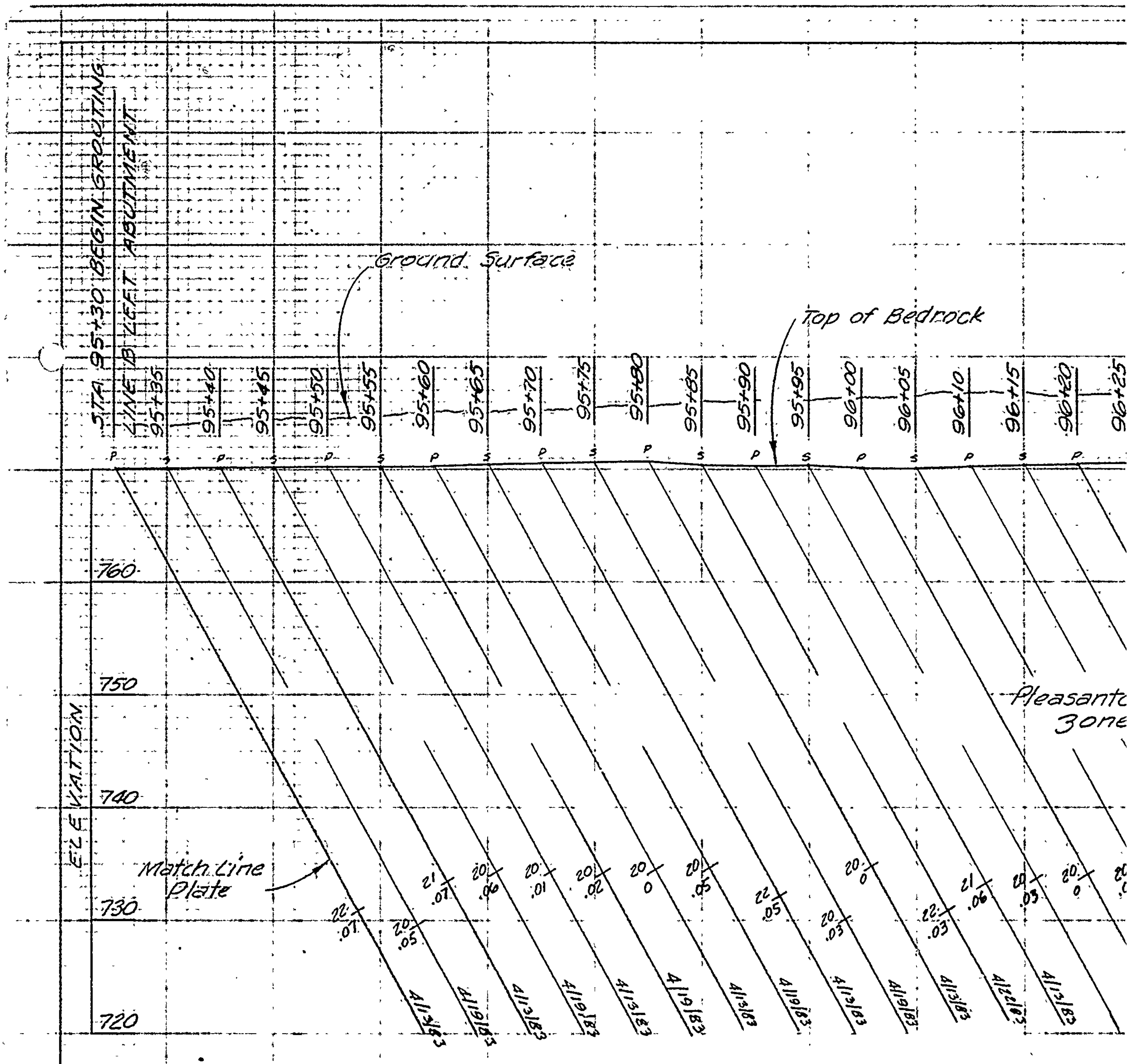
ANI

for legend see Plate 44

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT GROUT CURTAIN PROFILE LEFT ABUTMENT LINE A STA. 101 +40 TO STA. 102+50
Drawn by: V.A.	
Checked by: C.H.	Scale: AS SHOWN; Sheet number: 49
Submitted by:	Date: JUNE 1990; File No.: RBL-2-1269

PLATE NO. 49



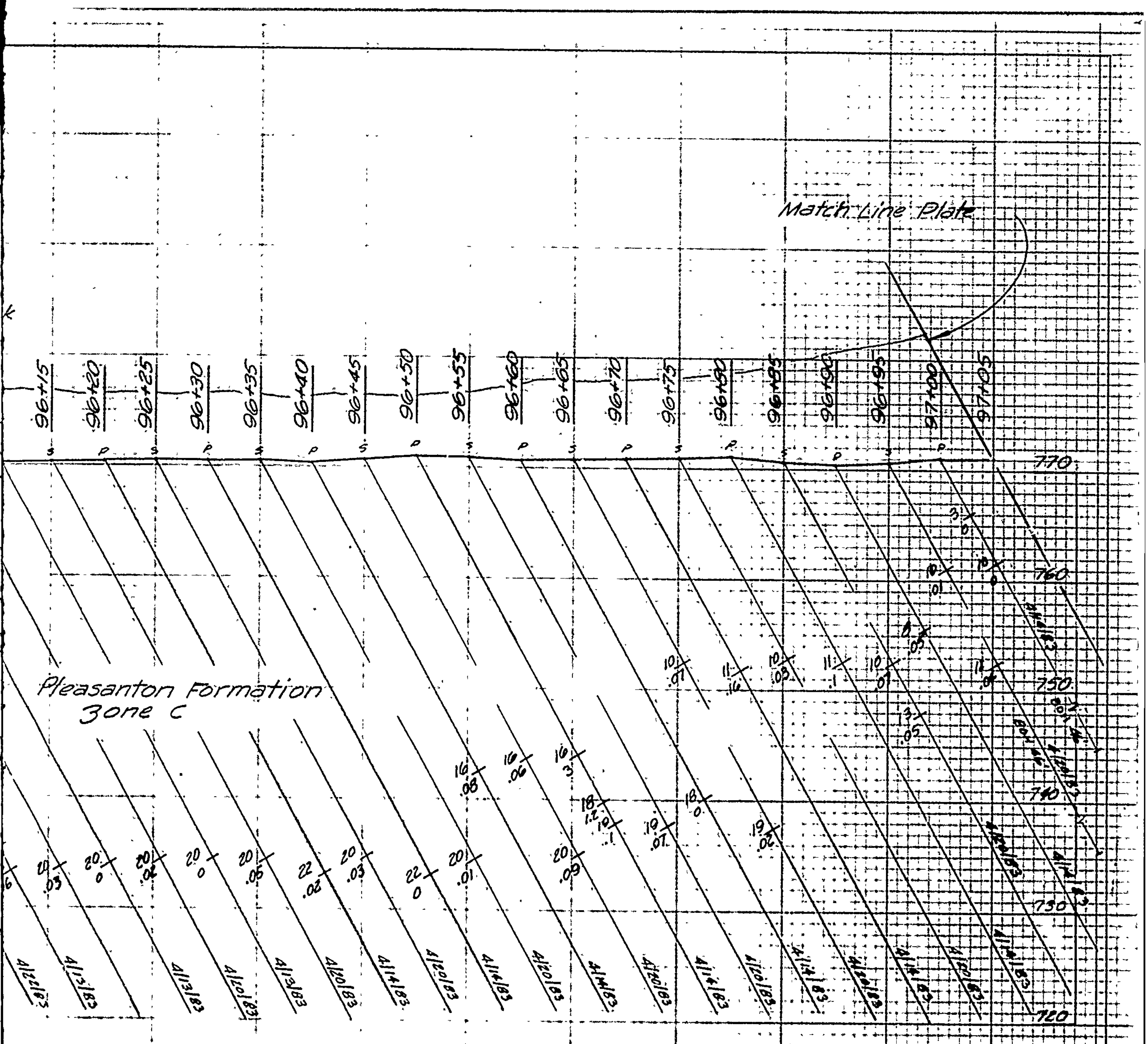
BLUE SPRINGS LAKE GROUT CURTAIN P

LINE B 5 FEET UPSTREAM

LOOKING UPSTREAM

	HOLES	DRILL	SACKS
PRIMARY	18	1016'	0
SECONDARY	17	967'	0

0 10

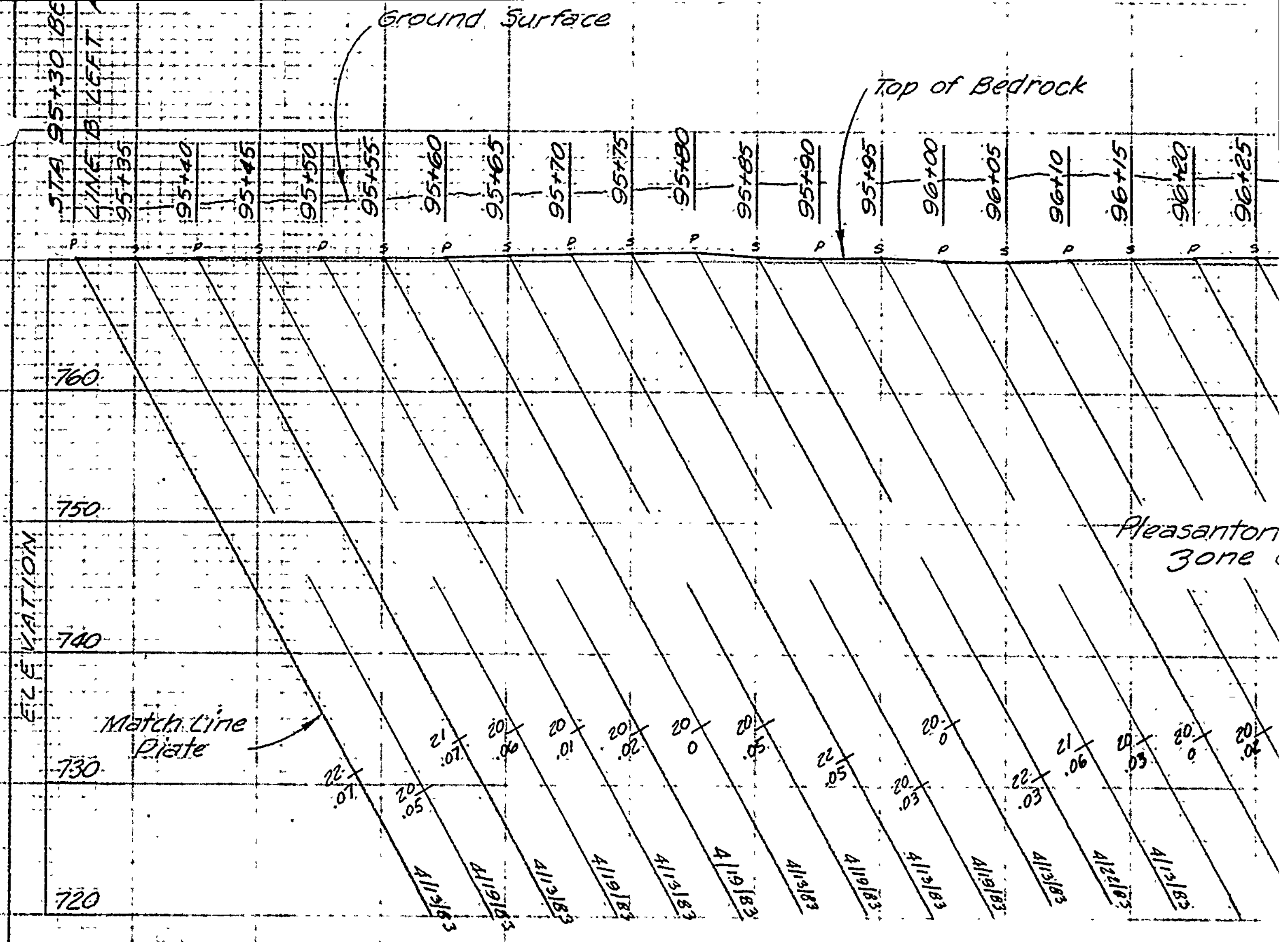


RTAIN PROFILE LEFTABUTMENT

TREAM STA 95+30 TO STA 97+05

STREAM

U. S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS KANSAS CITY, MISSOURI	
Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by: V.A.	GROUT CURTAIN PROFILE LEFT ABUTMENT LINE B STA 95+30 TO STA [illegible]



BLUE SPRINGS LAKE GROUT CURTAIN PR

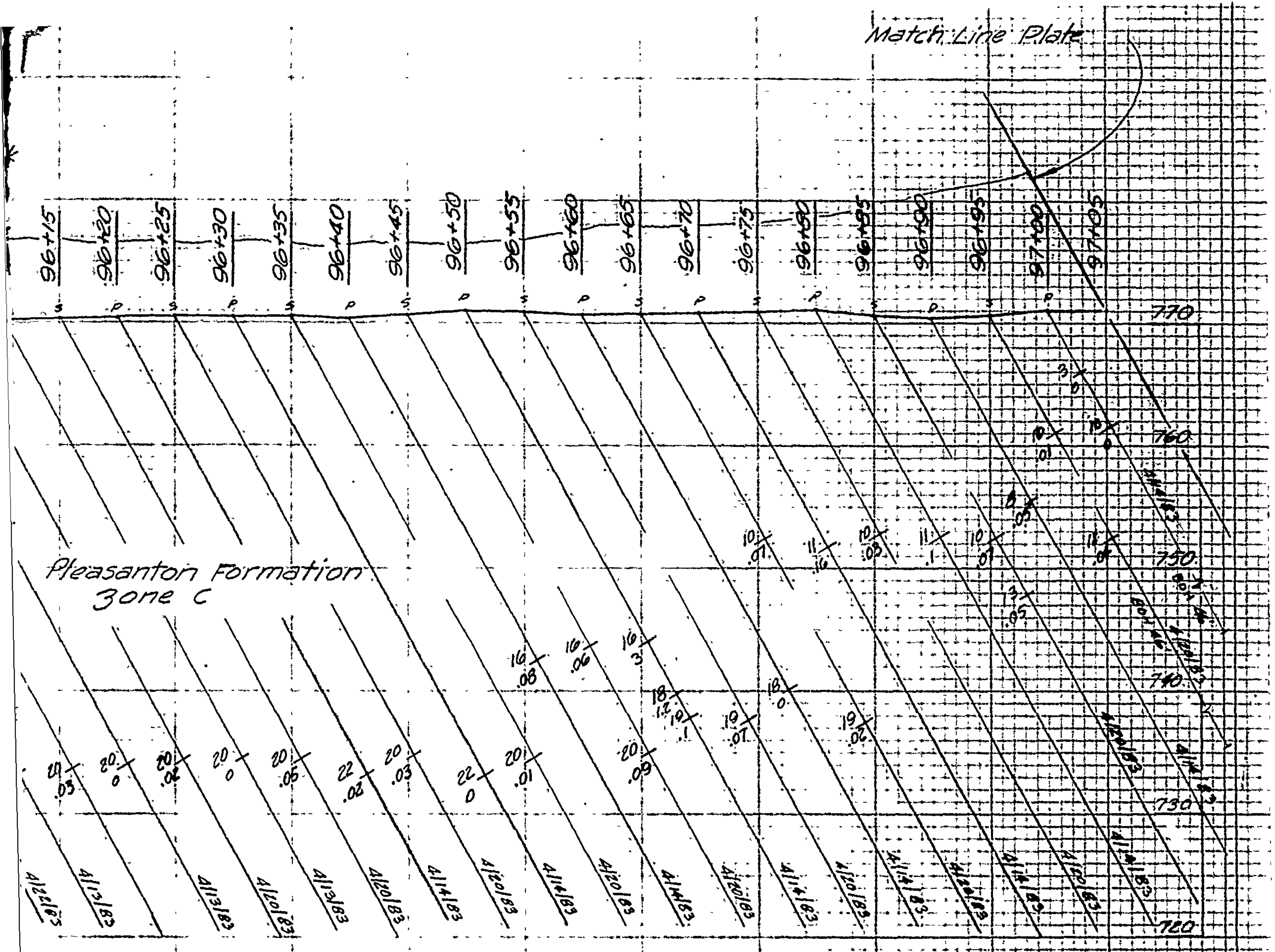
LINE B 5 FEET UPSTREAM

LOOKING UPSTREAM

	HOLES	DRILL	SACKS
PRIMARY	18	1016'	0
SECONDARY	17	967'	0

0 10
SCALE IN FEET

for Legend see Plate



TAIN PROFILE LEFTABUTMENT

TREAM STA 95+30 TO STA 97+05

TREAM

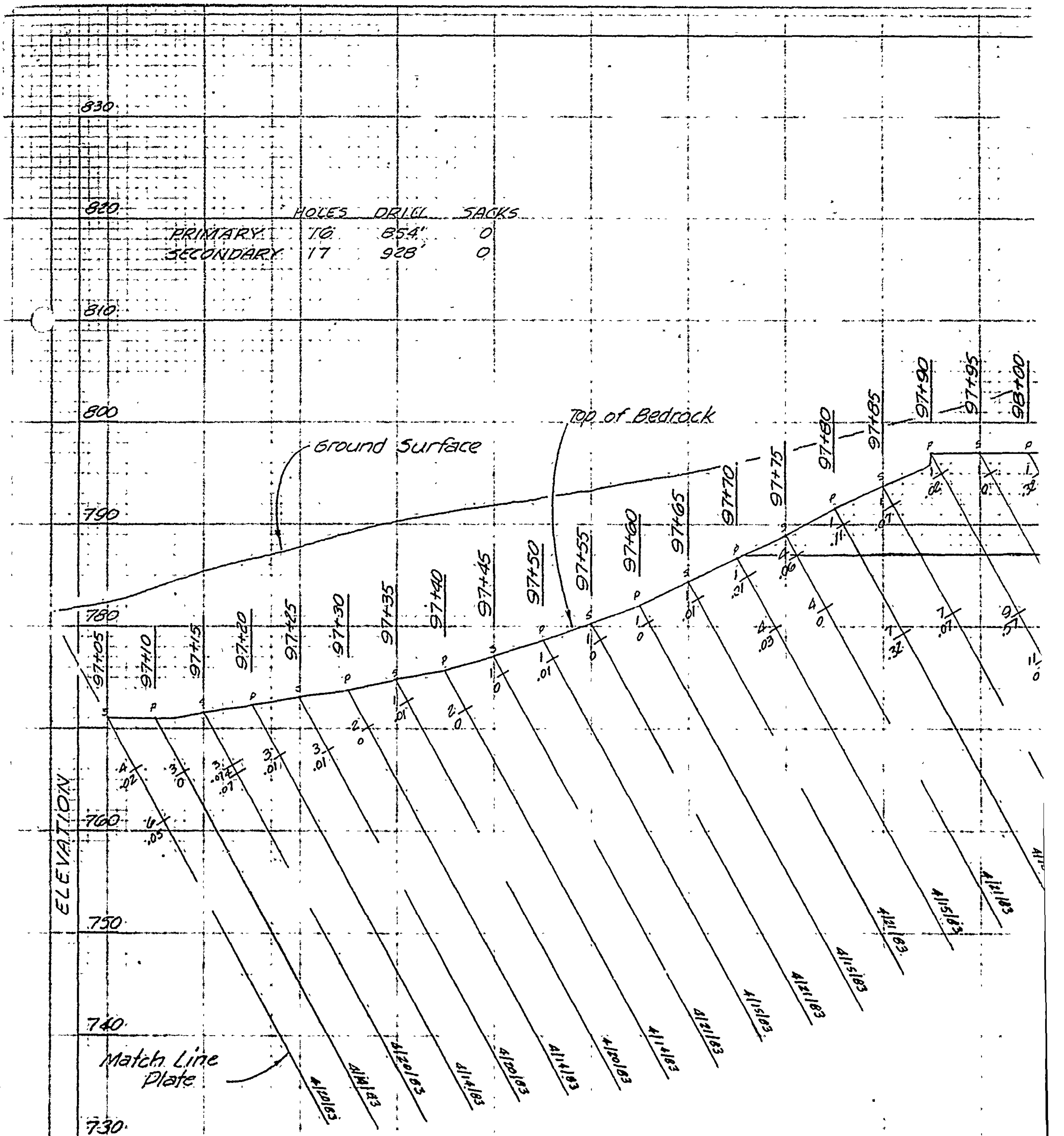
d see Plate 44

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

GROUT CURTAIN PROFILE
LEFT ABUTMENT LINE B
STA. 95+30 TO STA. 97+05

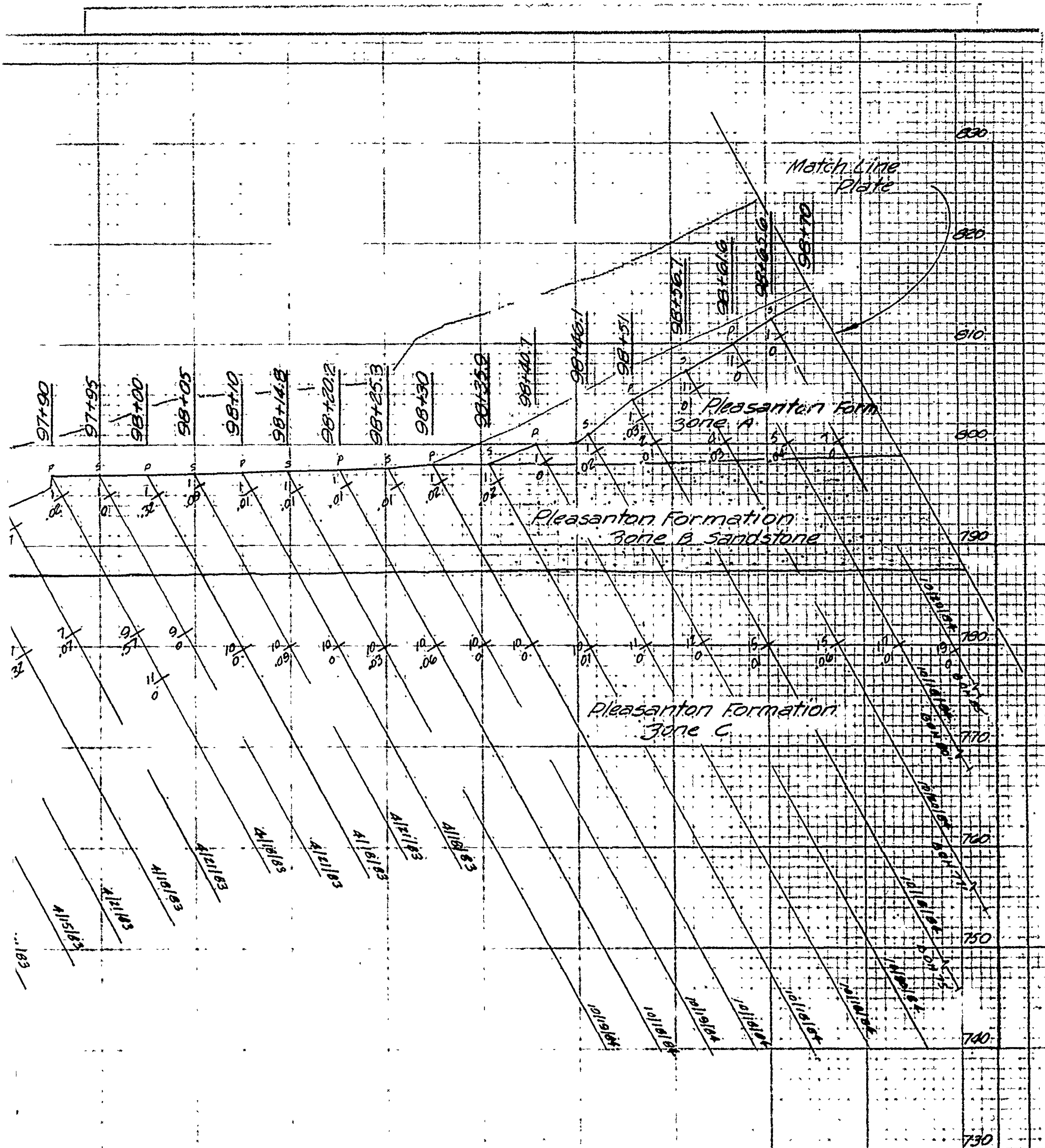
Designed by:	
Drawn by:	V.A.
Checked by:	C.H.
Submitted by:	
Scale:	AS SHOWN
Date:	JUNE 1990
Sheet number:	50
Dwg. No.:	
File No.:	RBL-2-1270



BLUE SPRINGS LAKE GROUT CURTAIN PROFI

LINE B 5 FEET UPSTREAM STA

LOOKING UPSTREAM



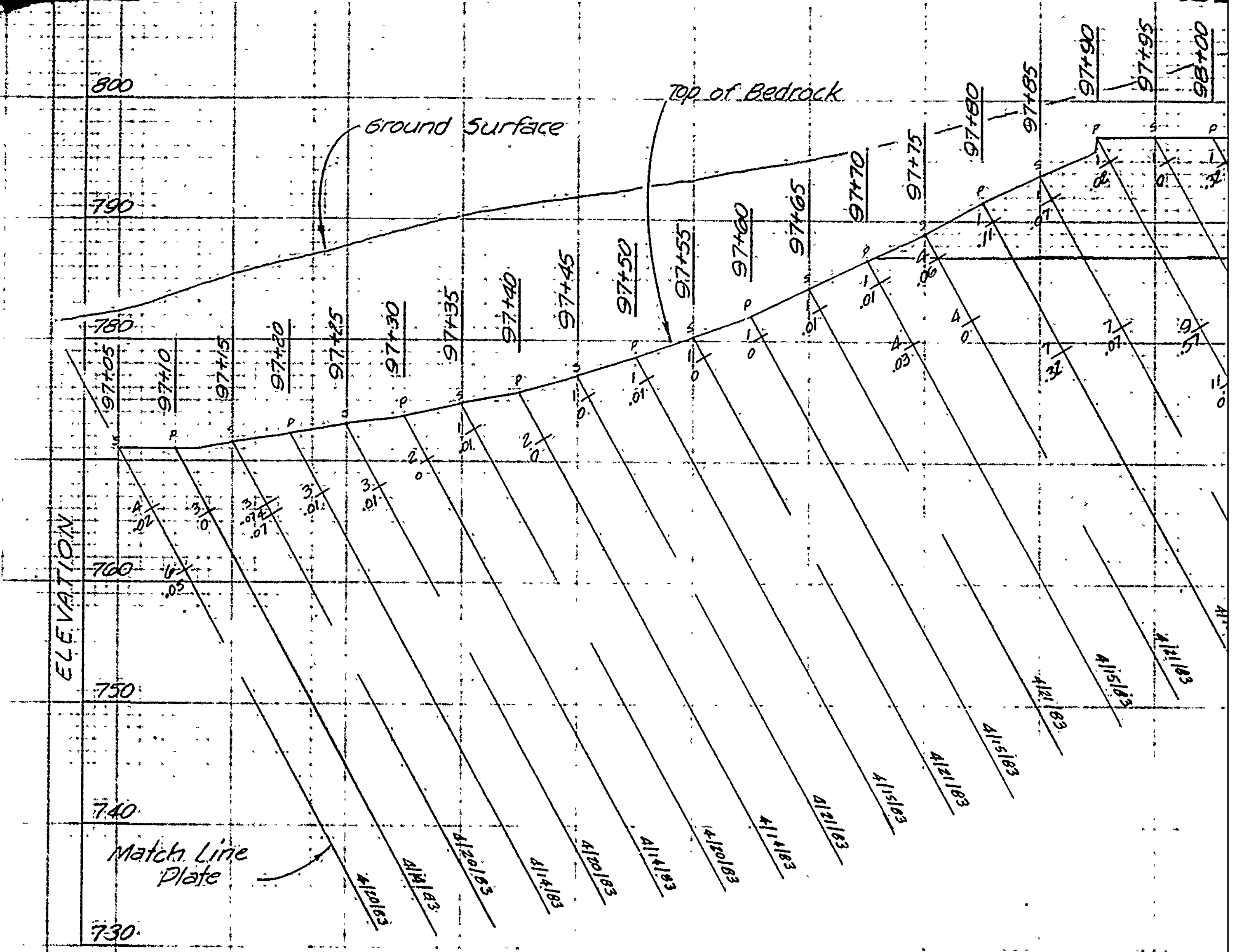
AIN PROFILE LEFT ABUTMENT

FAM STA 97+05 TO STA 98+70

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE



BLUE SPRINGS LAKE GROUT CURTAIN PROF

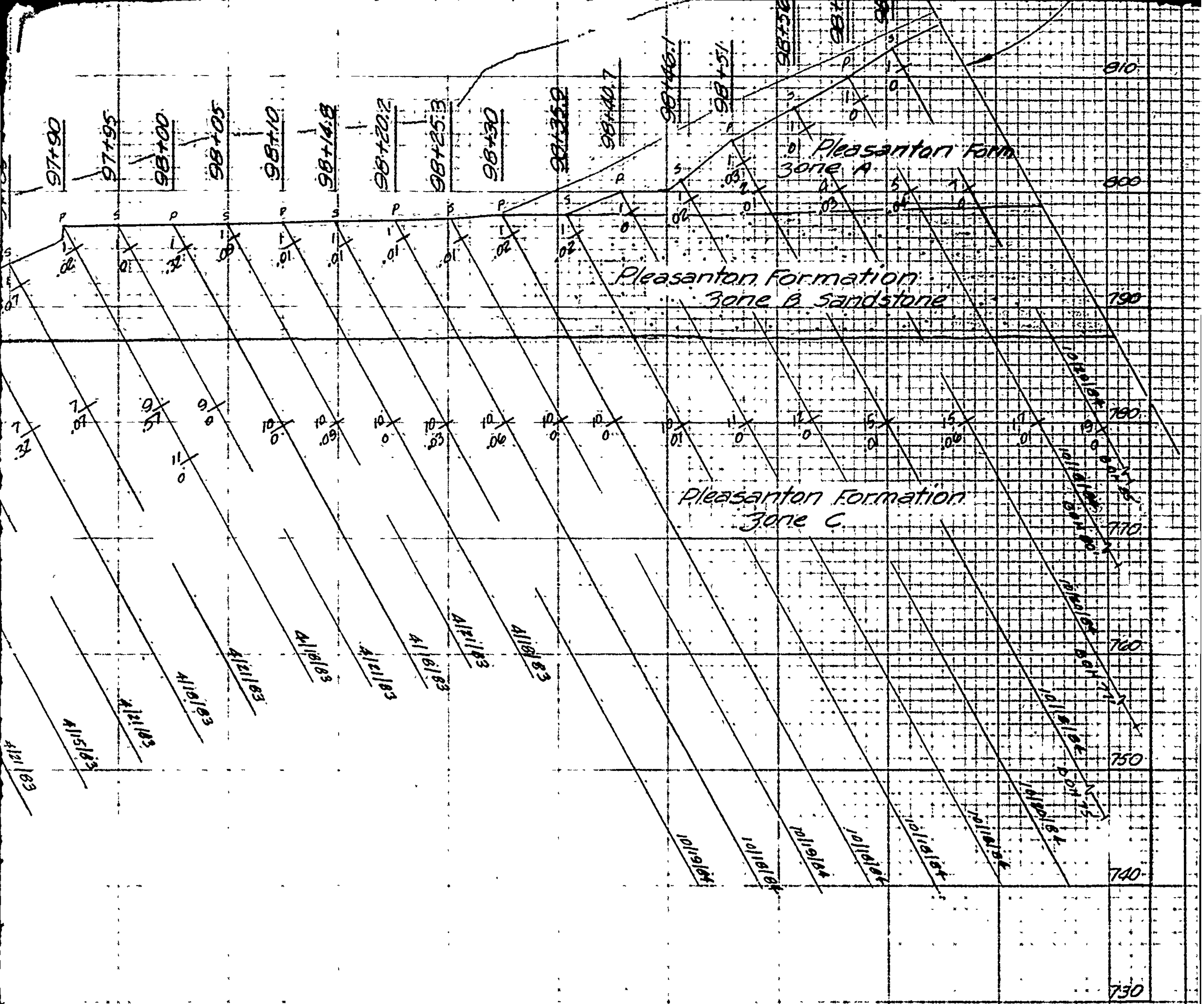
LINE B 5 FEET UPSTREAM ST

LOOKING UPSTREAM

0 10

SCALE IN FEET

for leg



TAIN PROFILE LEFT ABUTMENT

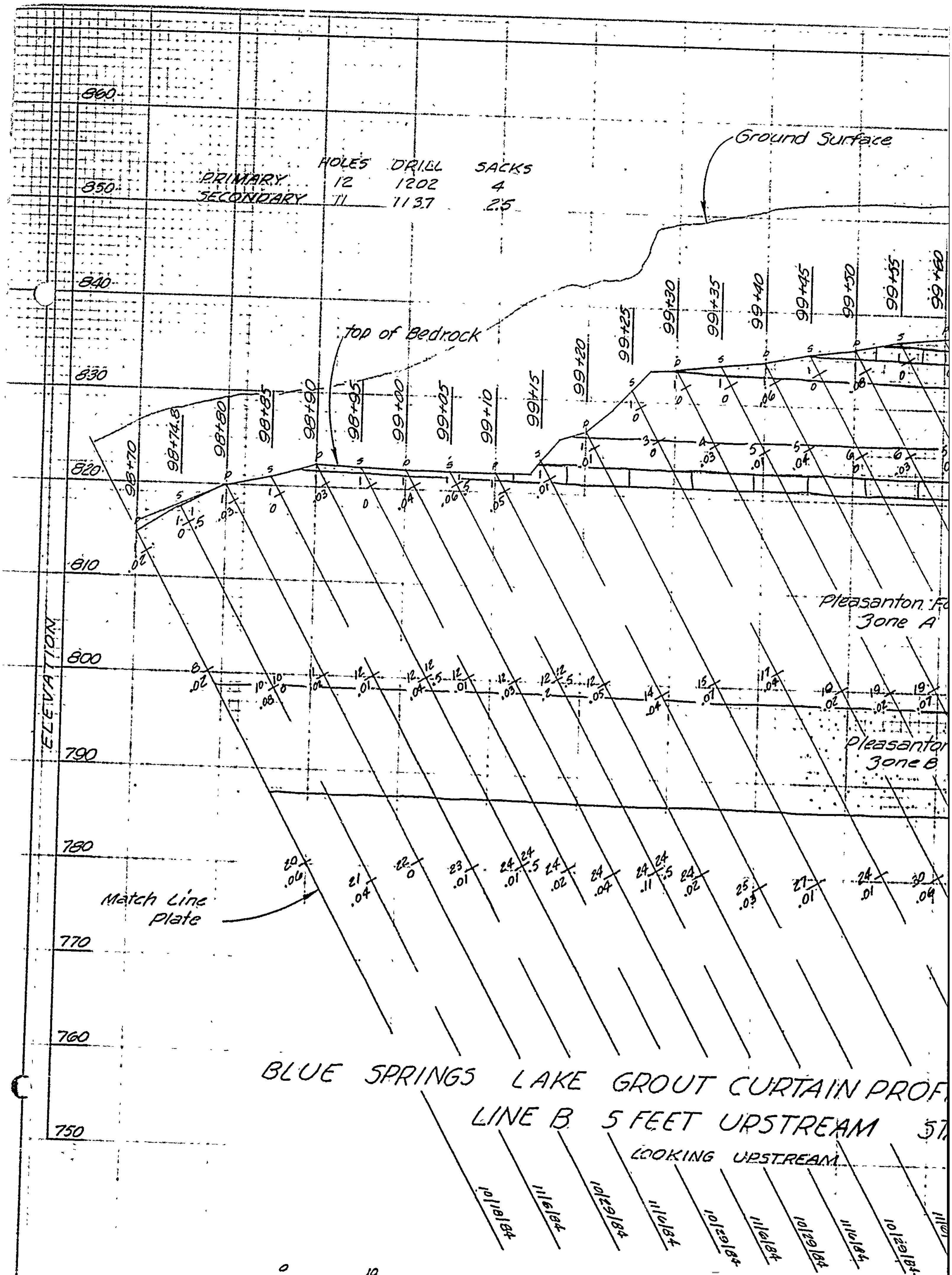
REAM STA 97+05 TO STA 98+70

EAM.

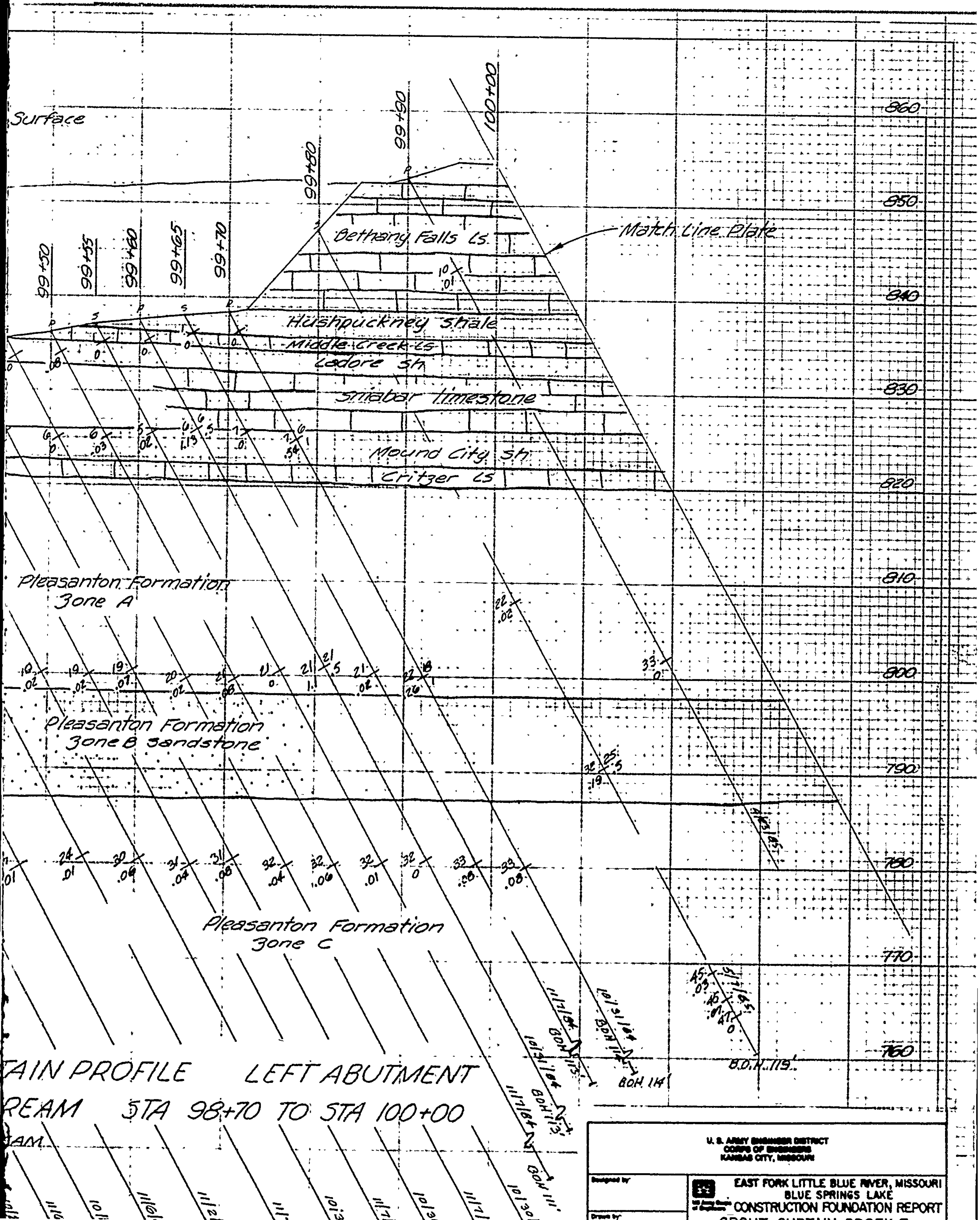
for legend see Plate 44

U. S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS KANSAS CITY, MISSOURI	
Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by: V.A.	GROUT CURTAIN PROFILE. LEFT ABUTMENT LINE B STA. 97+05 TO STA. 98+70
Checked by: C.H.	Scale: AS SHOWN
Submitted by:	Date: JUNE 1990 — Sheet number: 51
	Dwg. No.: — File No.: RBL-2-1271

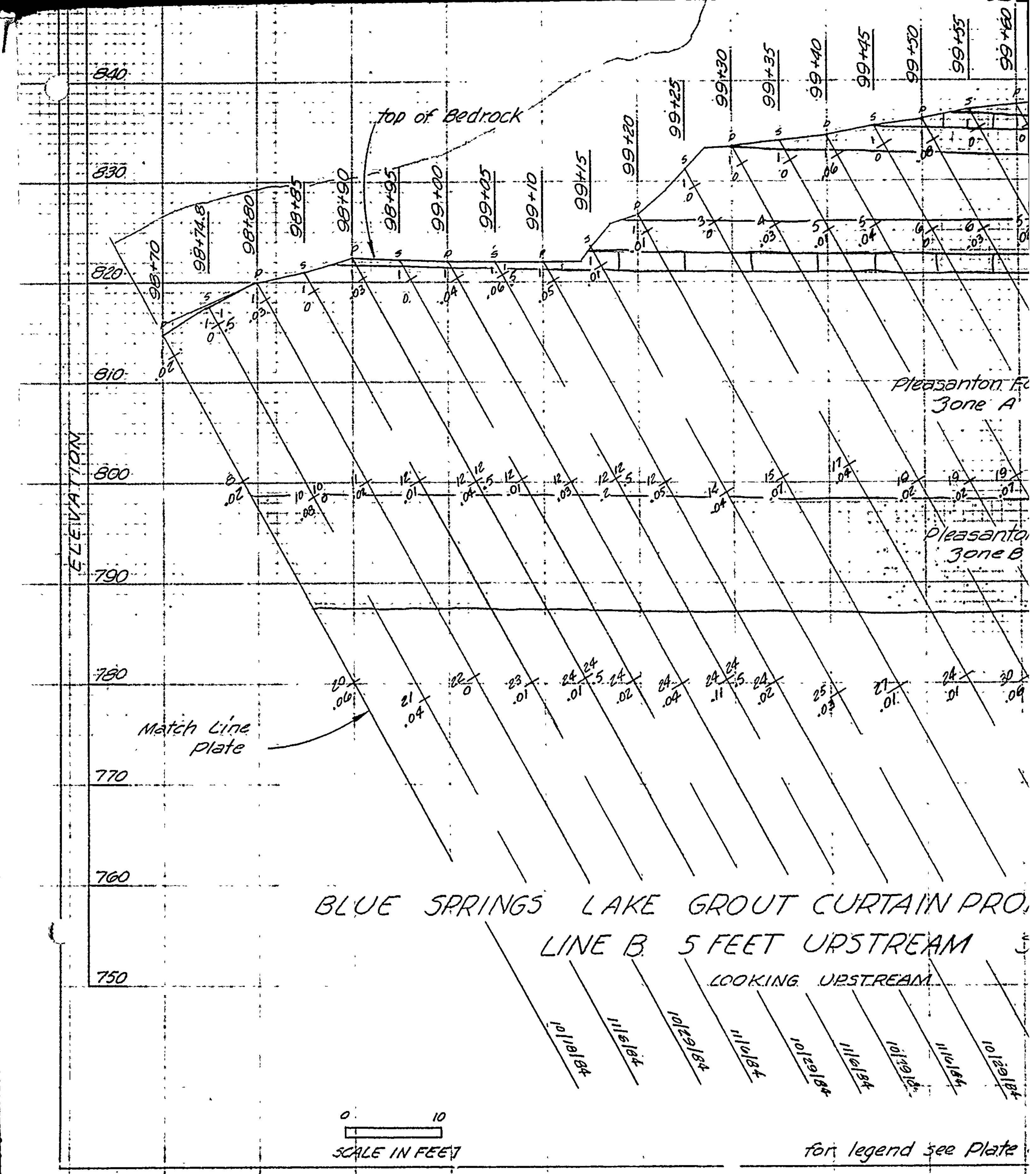
PLATE NO. 51

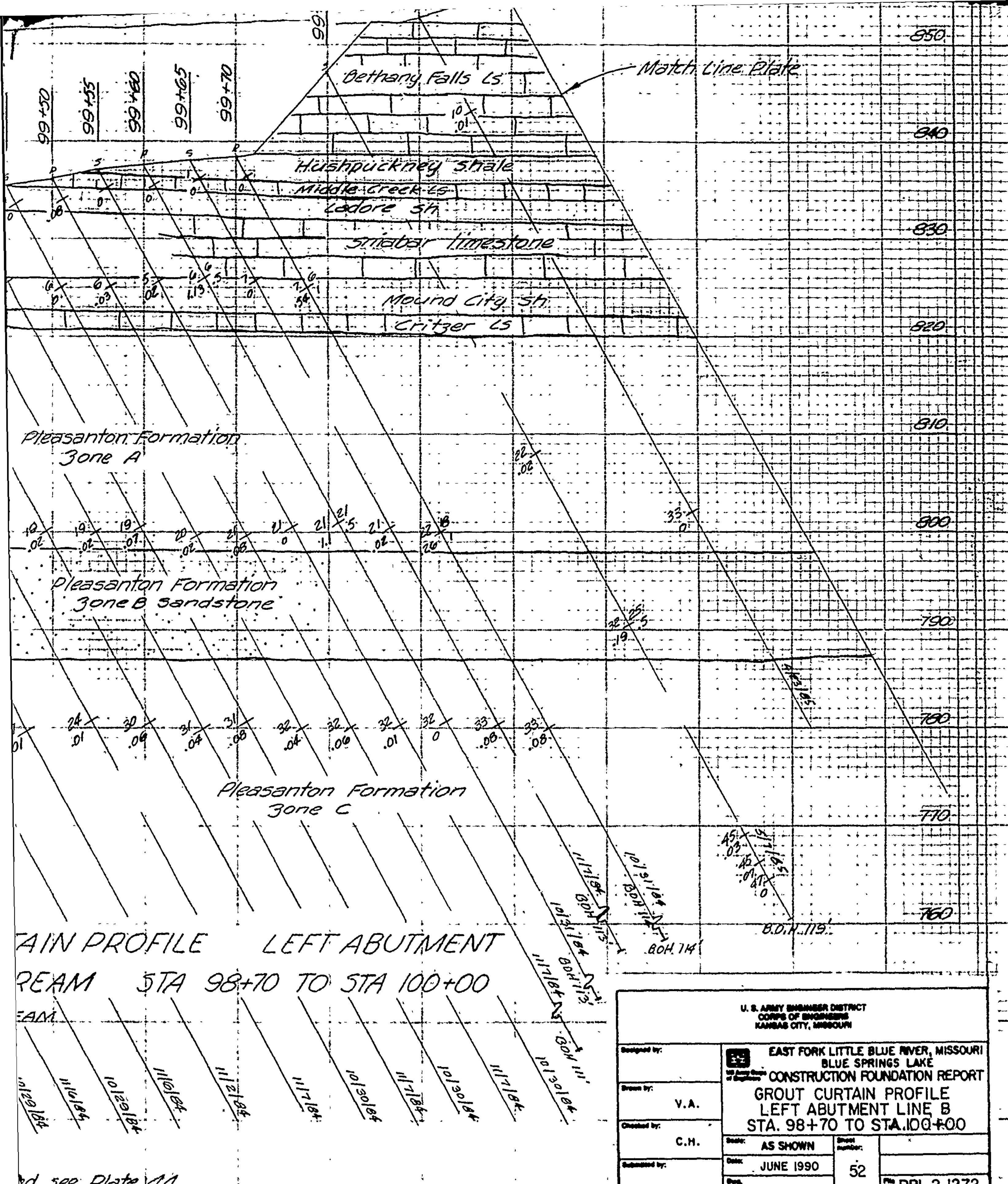


HOLES DRILL SACKS
PRIMARY 12 1202 4
SECONDARY 11 1137 2.5
Ground Surface
Top of Bedrock
ELEVATION
860
850
840
830
820
810
800
790
780
770
760
750
98+70
98+74.8
98+80
98+85
98+90
98+95
99+00
99+05
99+10
99+15
99+20
99+25
99+30
99+35
99+40
99+45
99+50
99+55
Pleasanton Fo
3one A
Pleasanton
3one B
Match Line Plate
BLUE SPRINGS LAKE GROUT CURTAIN PROF
LINE B 5 FEET UPSTREAM
LOOKING UPSTREAM
10/18/84
11/6/84
10/29/84
11/6/84
10/29/84
11/6/84
10/29/84
11/6/84
10/29/84
0
10



Surface
99+50
99+55
99+60
99+65
99+70
99+80
99+90
100+00
Bethany Falls Ls.
Match Line Plate
Hushpuckney Shale
Middle Creek Ls
Ladore Sh
Mound City Sh
Critzer Ls
Pleasanton Formation
Zone A
Pleasanton Formation
Zone B Sandstone
Pleasanton Formation
Zone C
860
850
840
830
820
810
800
790
780
770
760
B.O.H. 119'
BOH 114'
BOH 113'
BOH 111'
TAIN PROFILE LEFT ABUTMENT
REAM STA 98+70 TO STA 100+00
U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT


BLUE SPRINGS LAKE GROUT CURTAIN PRO
LINE B 5 FEET UPSTREAM
LOOKING UPSTREAM
ELEVATION
840
830
820
810
800
790
780
770
760
750
top of Bedrock
98+70
98+74.8
98+80
98+85
98+90
98+95
99+00
99+05
99+10
99+15
99+20
99+25
99+30
99+35
99+40
99+45
99+50
99+55
99+65
Pleasanton Fo
Zone A
Pleasanton
Zone B
Match Line
Plate
10/18/84
11/6/84
10/29/84
11/1/84
10/29/84
11/6/84
10/29/84
11/1/84
10/29/84
0
10
SCALE IN FEET
for legend see Plate



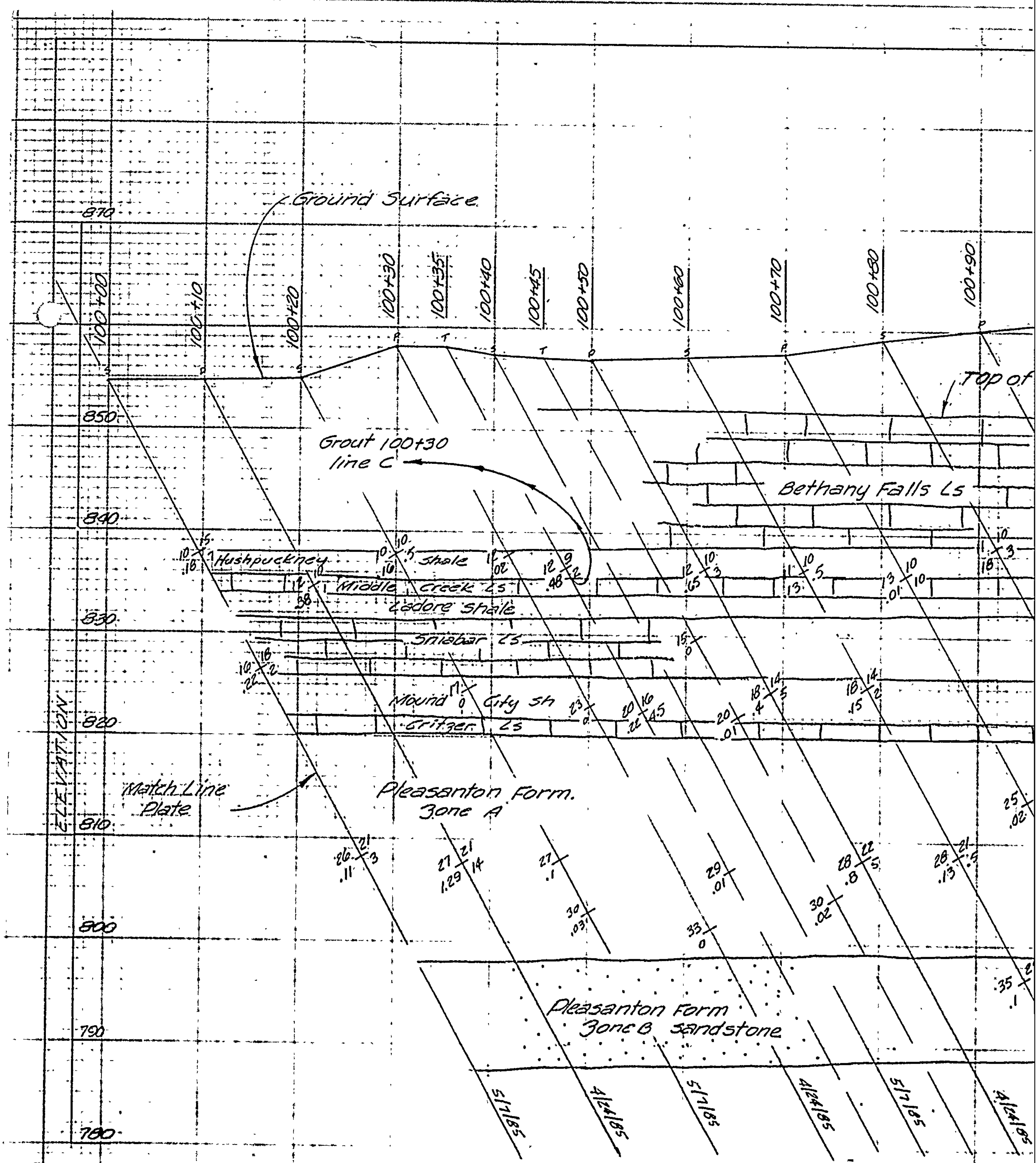
U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

GROUT CURTAIN PROFILE
LEFT ABUTMENT LINE B
STA. 98+70 TO STA.100+00

Designed by:	
Drawn by:	V.A.
Checked by:	C.H.
Submitted by:	
Scale:	AS SHOWN
Date:	JUNE 1990
Sheet number:	52
File No.:	RBL-2-1272

PLATE NO. 52

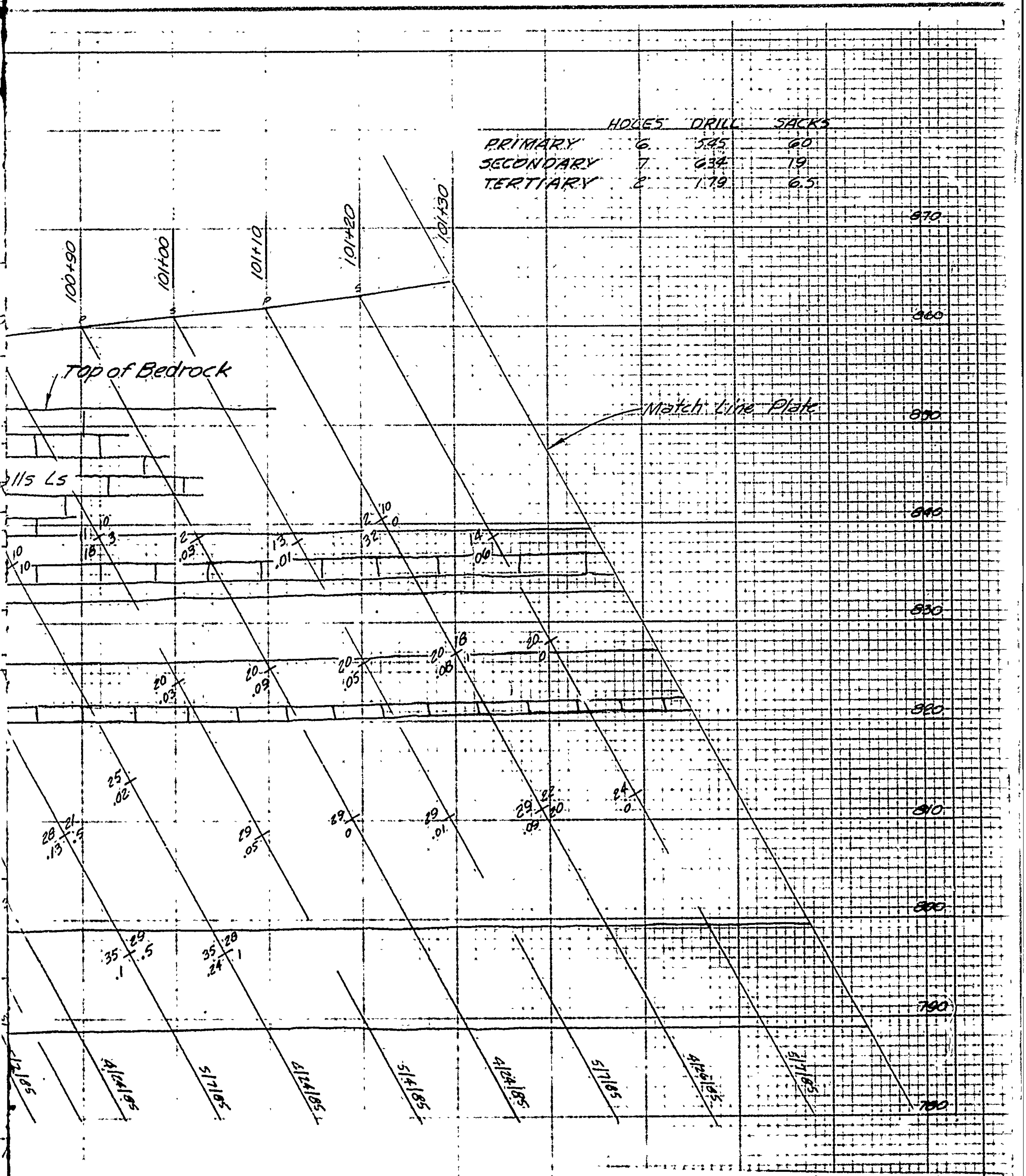


BLUE SPRINGS LAKE GROUT CURTAIN PROFILE

LINE B 5 FEET UPSTREAM STA 100+

LOOKING UPSTREAM

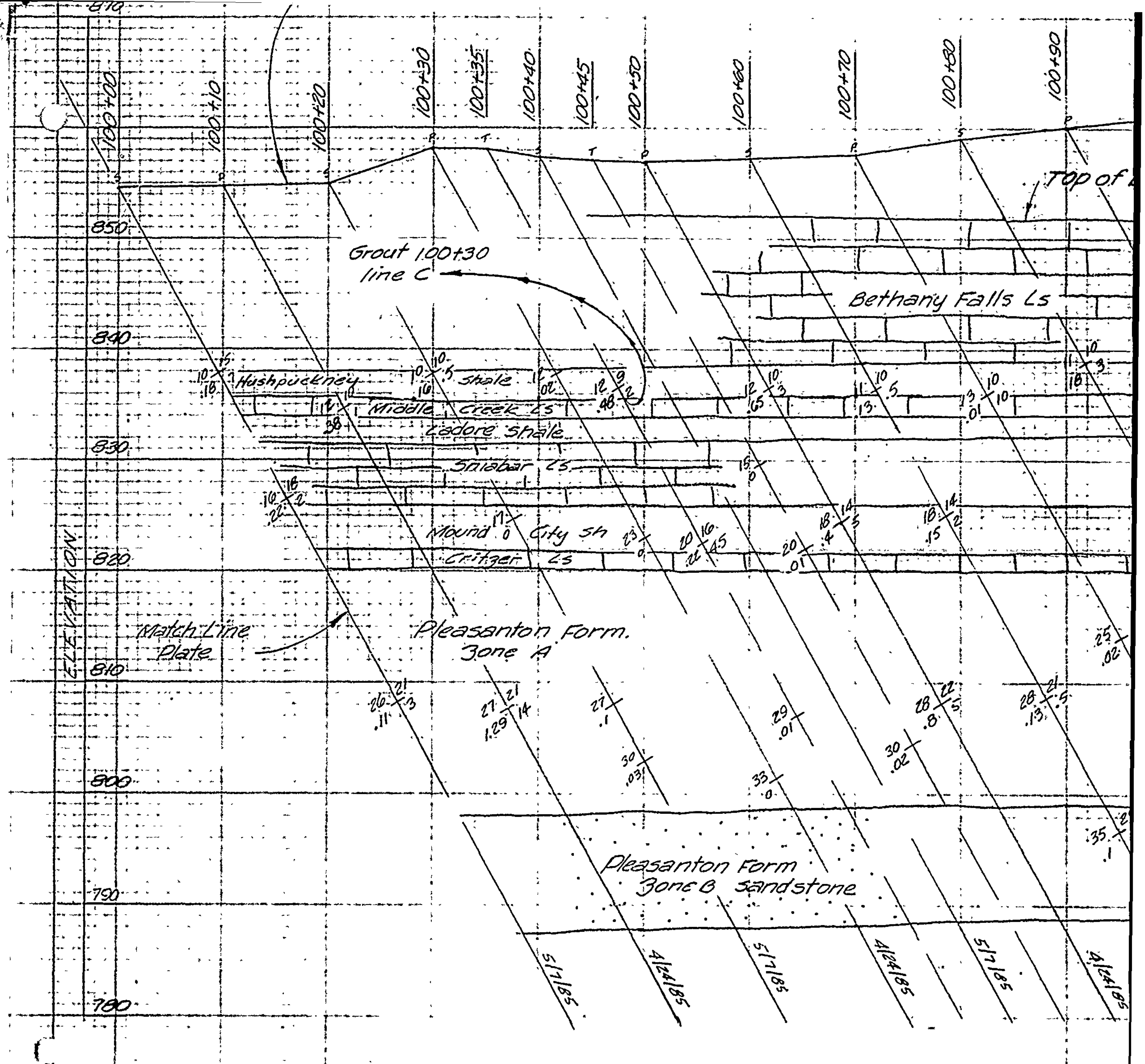
0 10



OFILE LEFT ABUTMENT
STA 100+00 TO STA 101+30

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by: V.A.	GROUT CURTAIN PROFILE LEFT ABUTMENT LINE B



BLUE SPRINGS LAKE GROUT CURTAIN PROFILE

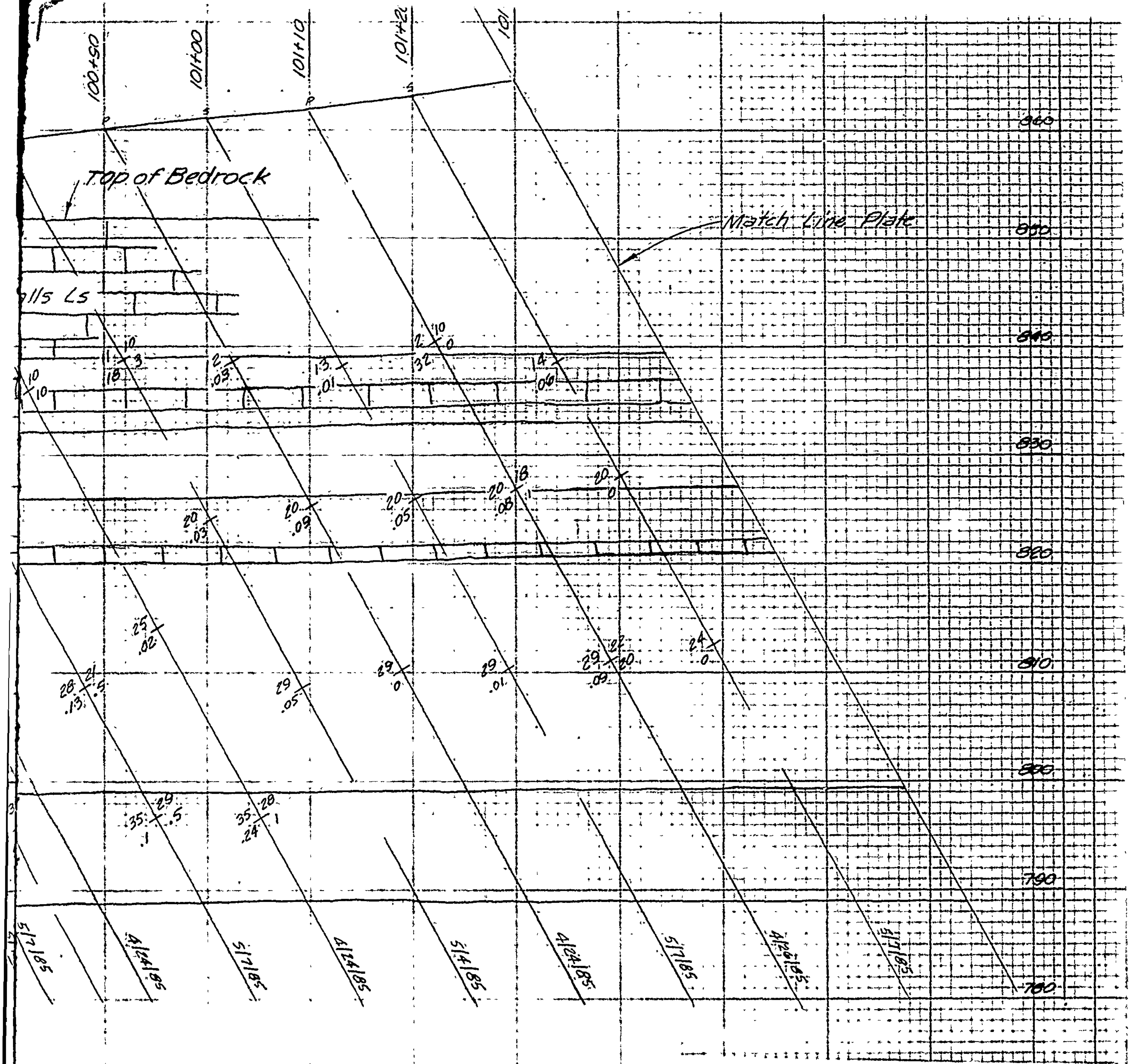
LINE B 5 FEET UPSTREAM STA 100

LOOKING UPSTREAM

0 10

SCALE IN FEET

for lege



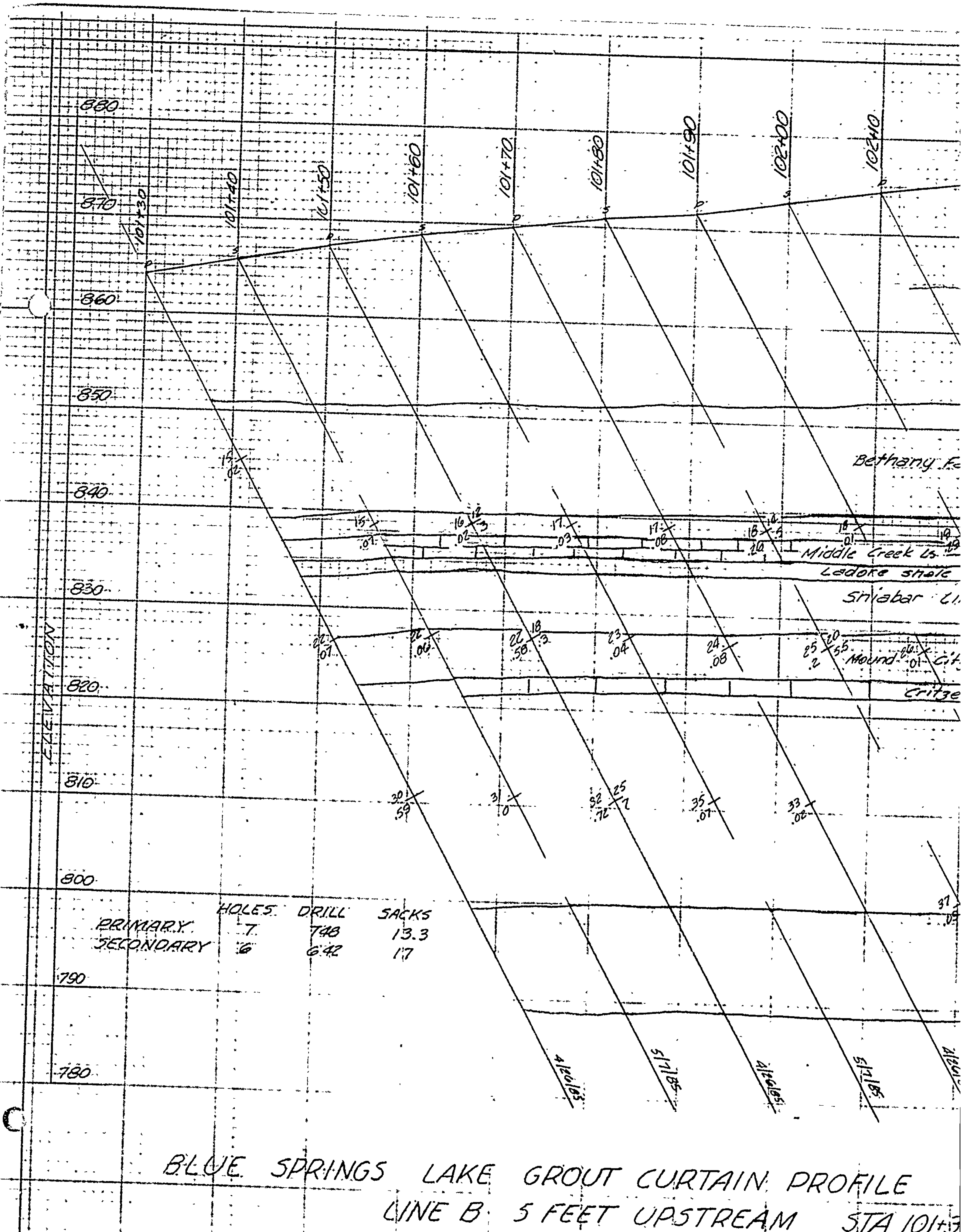
PROFILE LEFT ABUTMENT
STA 100+00 TO STA 101+30

For legend see Plate 44

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by: V.A.	GROUT CURTAIN PROFILE LEFT ABUTMENT LINE B STA. 100+00 TO STA. 101+30
Checked by: C.H.	Scale: AS SHOWN
Submitted by:	Date: JUNE 1990 — Sheet number: 53 — File No.: RBL-2-1273

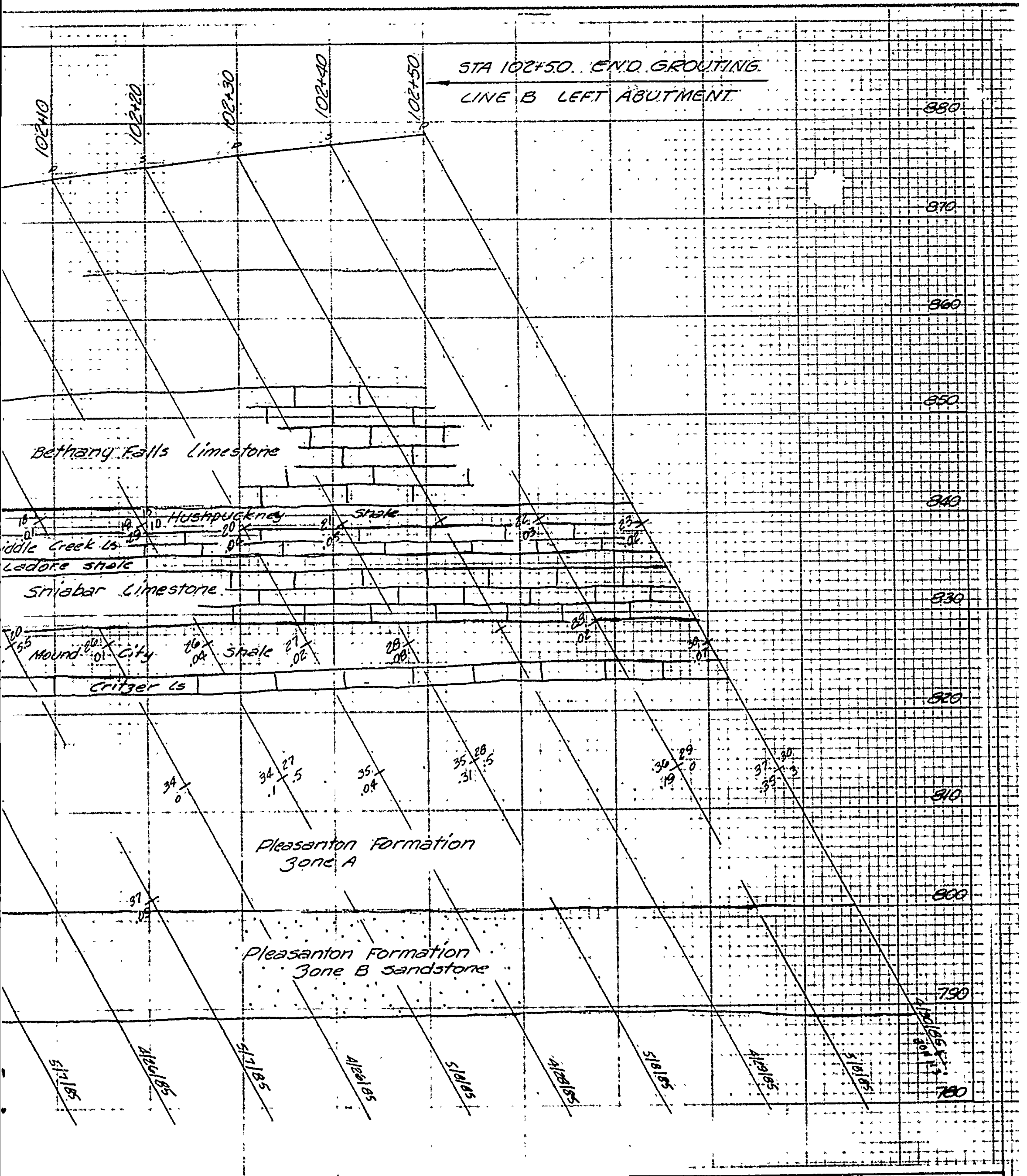
PLATE NO. 53.



BLUE SPRINGS LAKE GROUT CURTAIN PROFILE

LINE B 5 FEET UPSTREAM STA 101+3

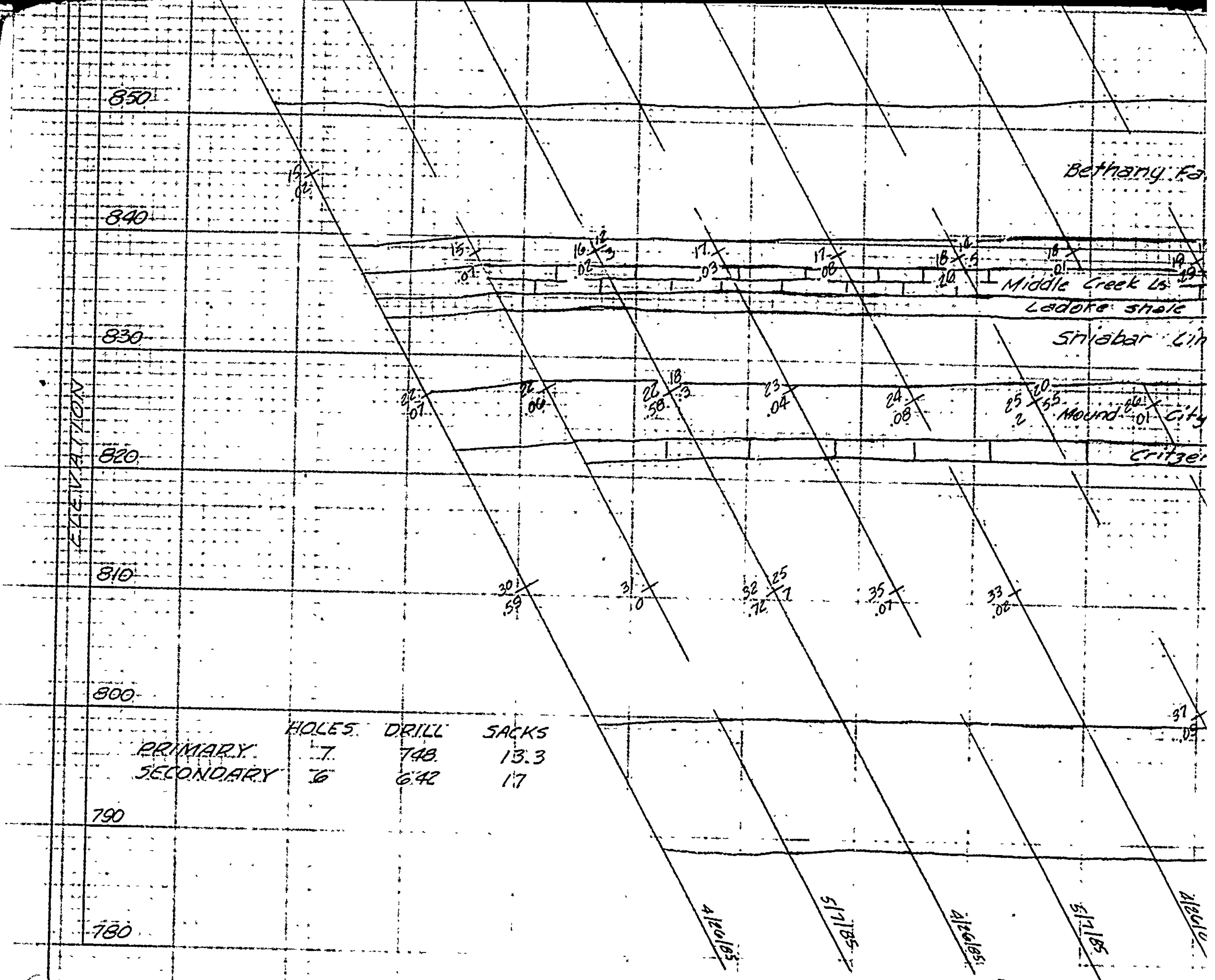
LOOKING UPSTREAM



ROFILE LEFT ABUTMENT
STA 101+30 TO STA 102+50

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by: V.A.	GROUT CURTAIN PROFILE LEFT ABUTMENT LINE B STA 101+30 TO STA 102+50



	HOLES	DRILL	SACKS
PRIMARY	7	748	13.3
SECONDARY	6	6.42	1.7

BLUE SPRINGS LAKE GROUT CURTAIN PROFILE

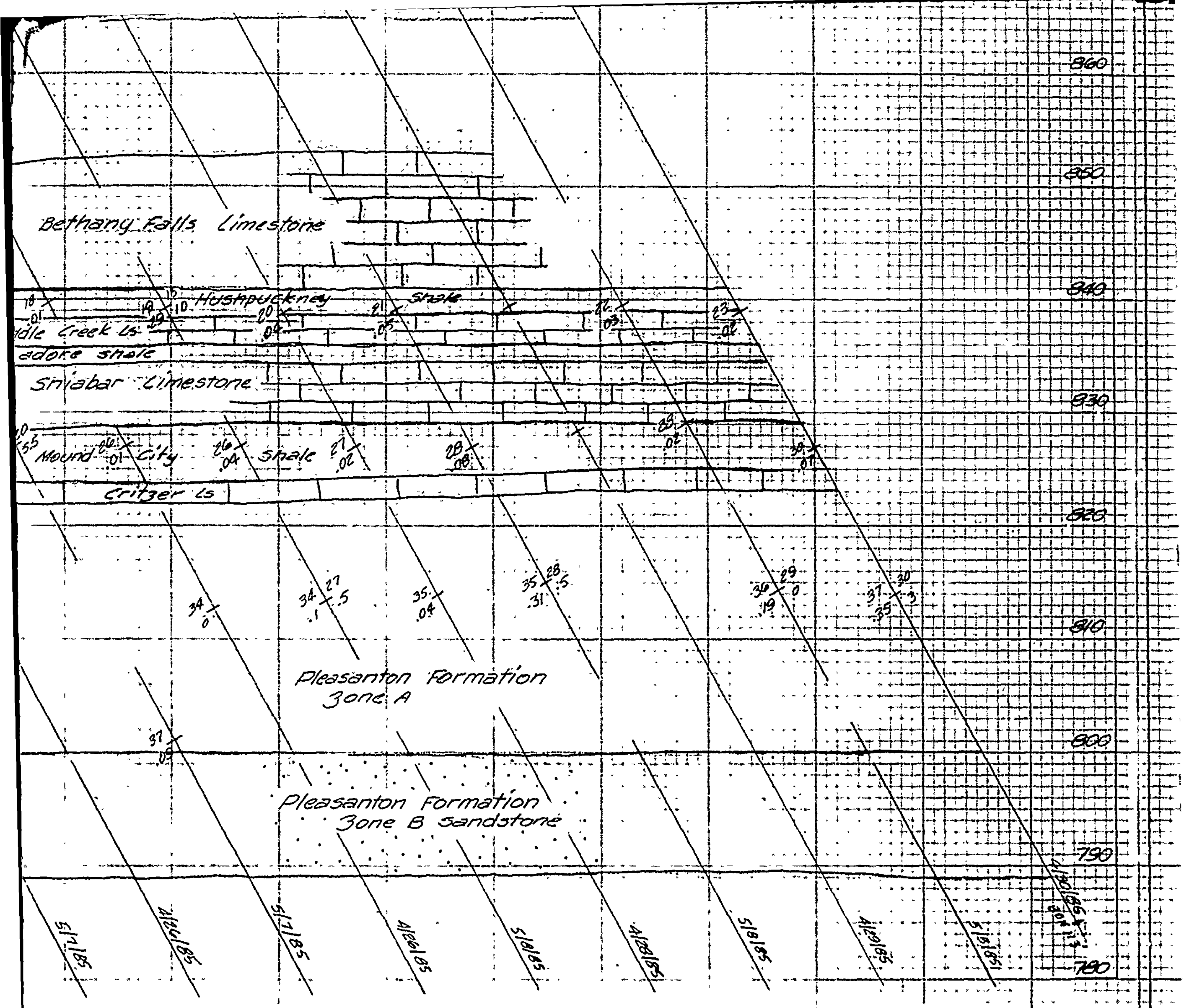
LINE B 5 FEET UPSTREAM STA 101+3

LOOKING UPSTREAM

0 10

SCALE IN FEET

for legen



OFILE LEFT ABUTMENT

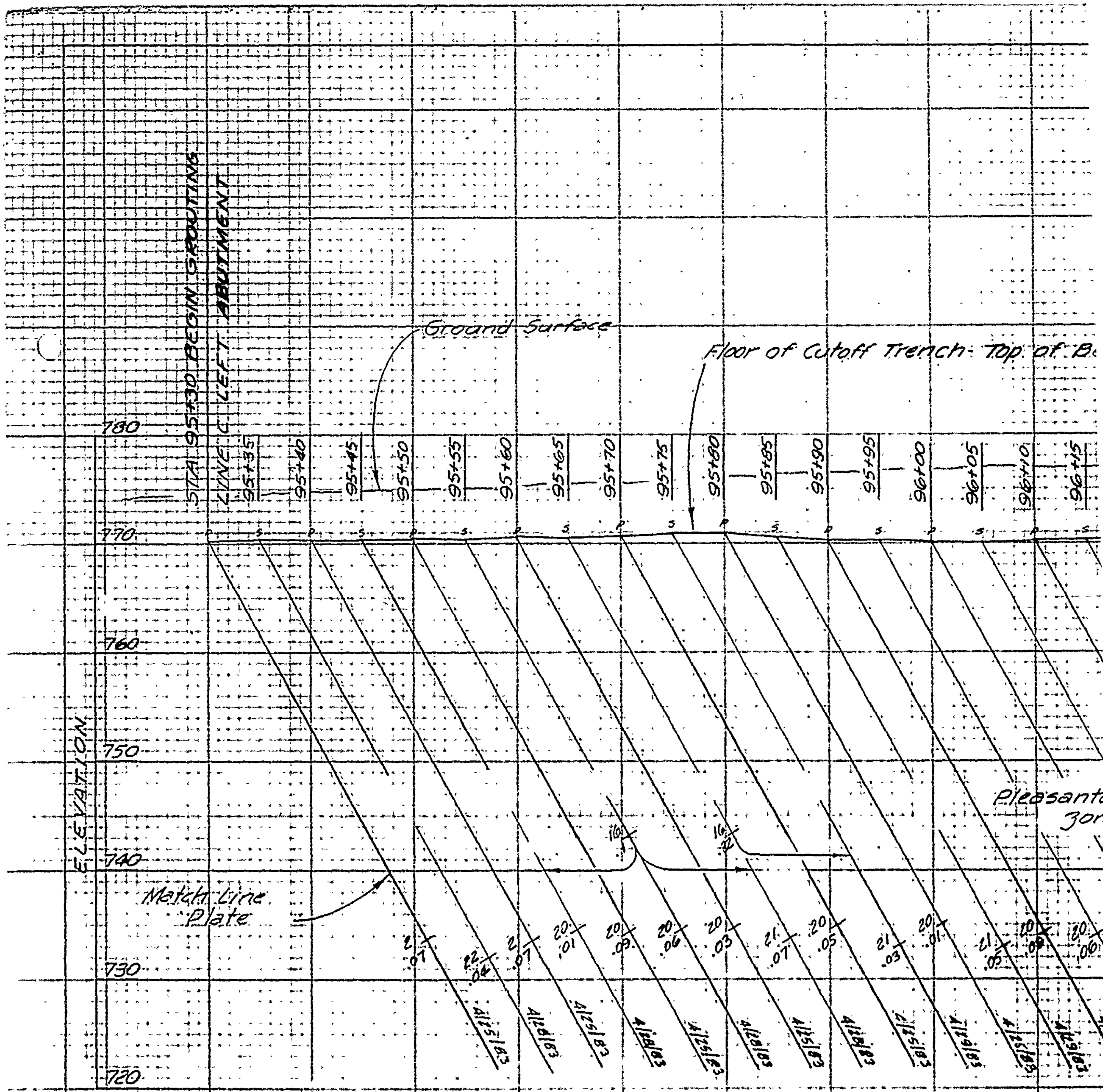
STA 101+30 TO STA 102+50

for legend see Plate 44

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by: V.A.	GROUT CURTAIN PROFILE LEFT ABUTMENT LINE B STA.101+30 TO STA.102+50
Checked by: C.H.	Scale: AS SHOWN — Sheet number: 54
Submitted by:	Date: JUNE 1990 — Dwg. No.: — File No.: RBL-2-1274

PLATE NO. 54

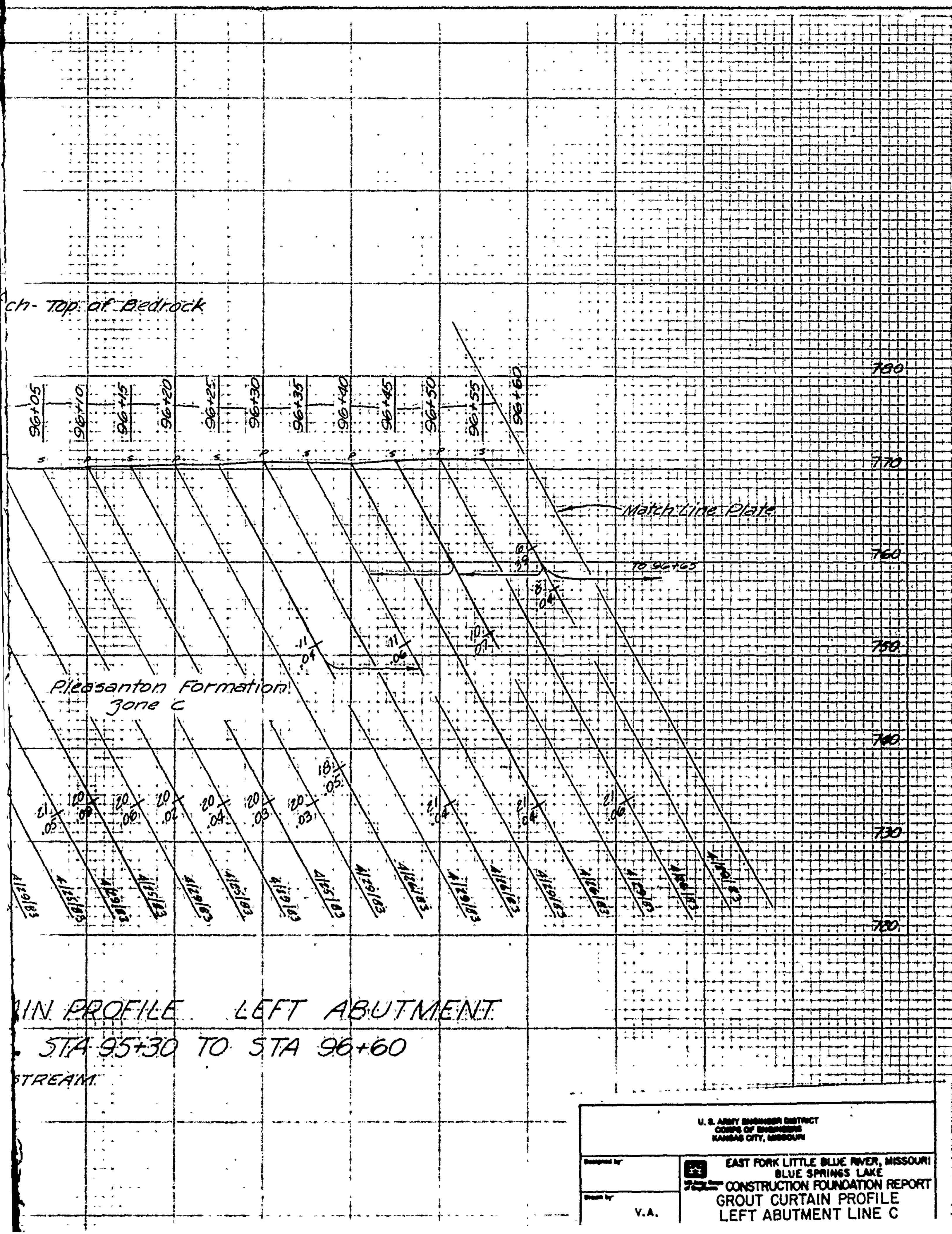


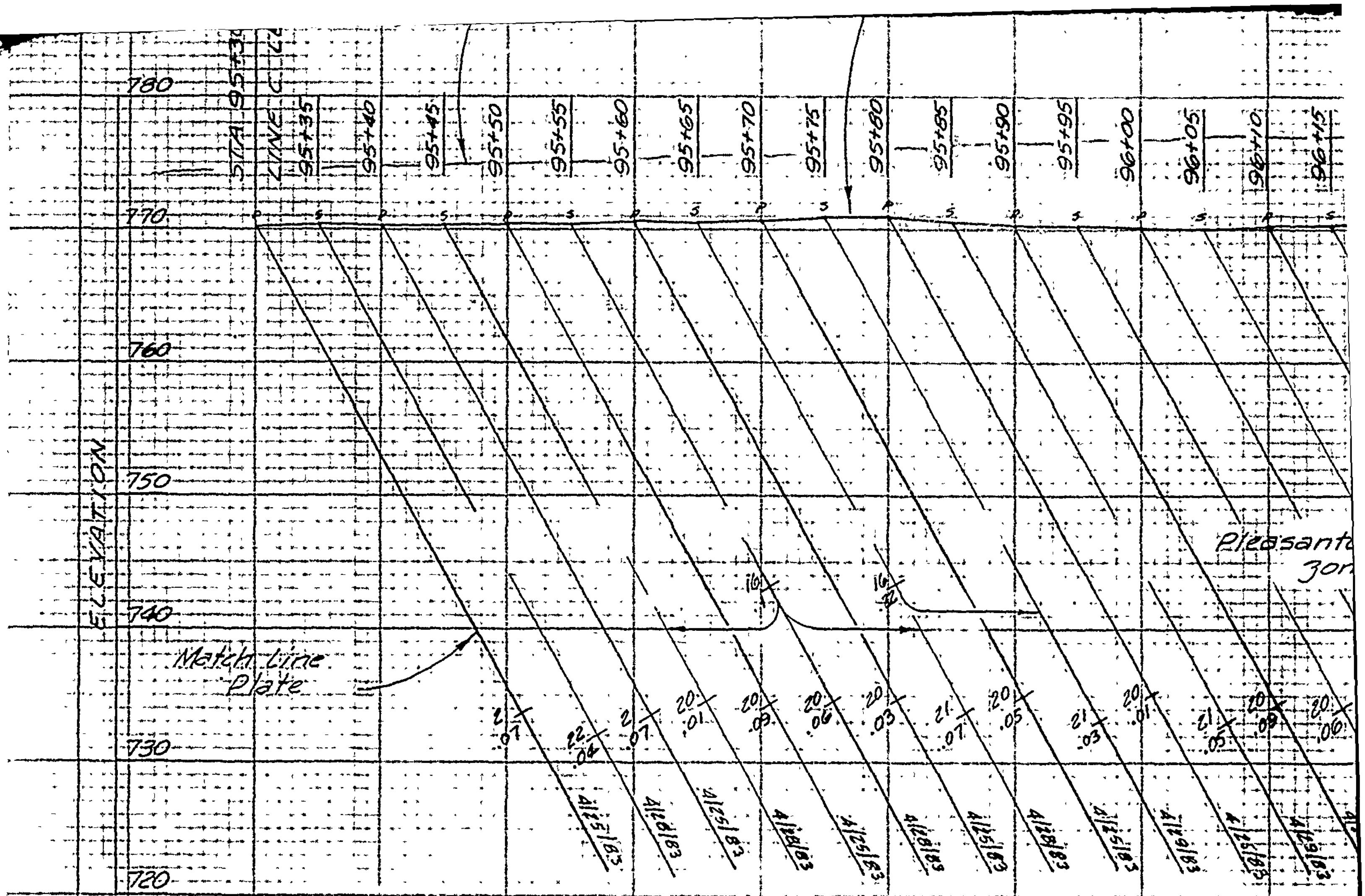
BLUE SPRINGS LAKE GROUT CURTAIN PROFI

LINE C ON DAM AXIS STA 95+3

LOOKING UPSTREAM

	HOLES	DRILL	SACKS
PRIMARY	13	728	0
SECONDARY	13	728	0


ch- Top of Bedrock
96+05
96+10
96+15
96+20
96+25
96+30
96+35
96+40
96+45
96+50
96+55
96+60
780
770
760
750
740
730
720
Match Line Plate
TO 96+65
Pleasanton Formation
Zone C
IN PROFILE LEFT ABUTMENT
STA 95+30 TO STA 96+60
STREAM
U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT
GROUT CURTAIN PROFILE
LEFT ABUTMENT LINE C
V.A.



BLUE SPRINGS LAKE GROUT CURTAIN PROFI

LINE C ON DAM AXIS STA 95+

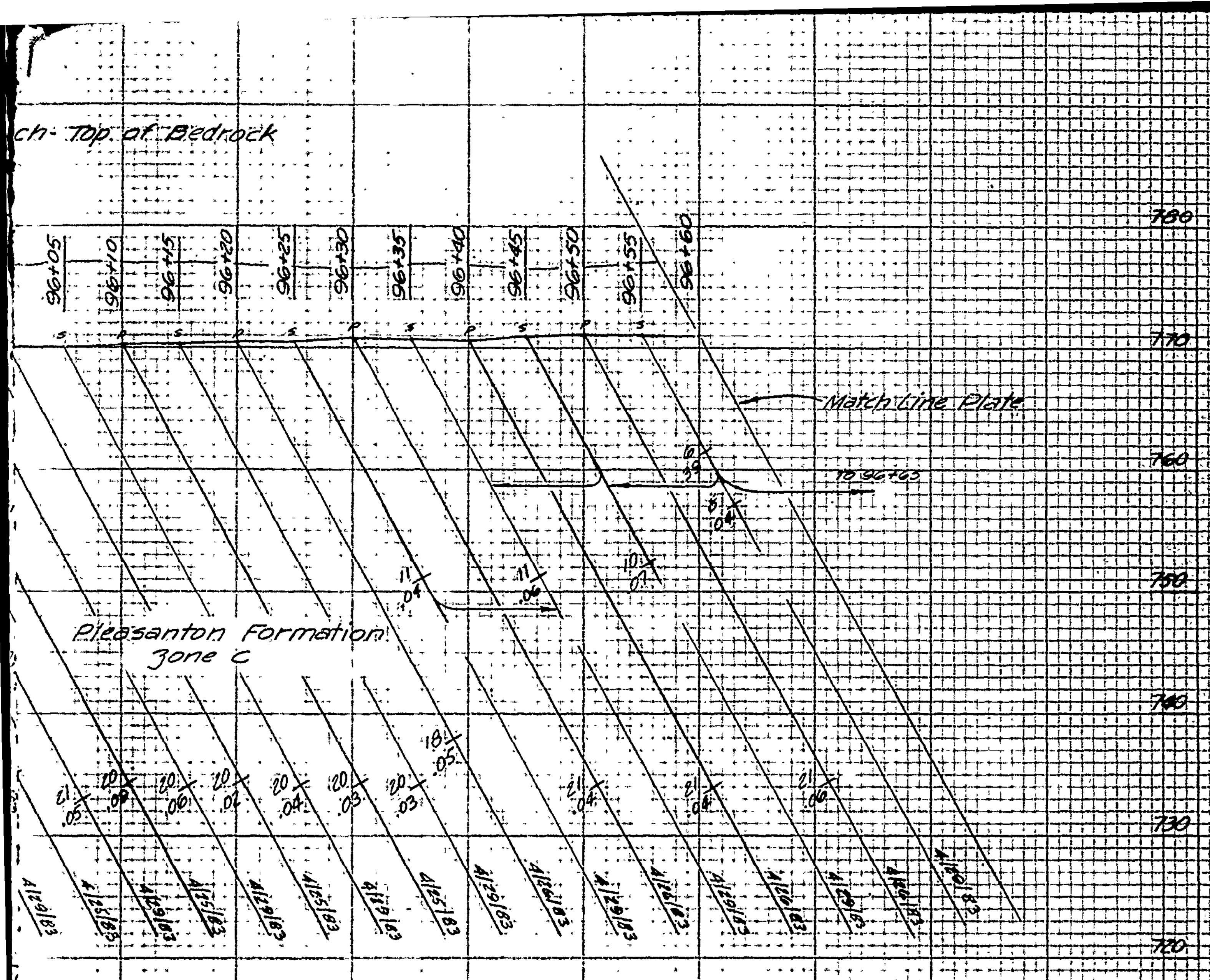
LOOKING UPSTREAM

	HOLES	DRILL	SACKS
PRIMARY	13	728	0
SECONDARY	13	728	0

0 10

SCALE IN FEET

for legend s



AIN PROFILE LEFT ABUTMENT

STA 95+30 TO STA 96+60

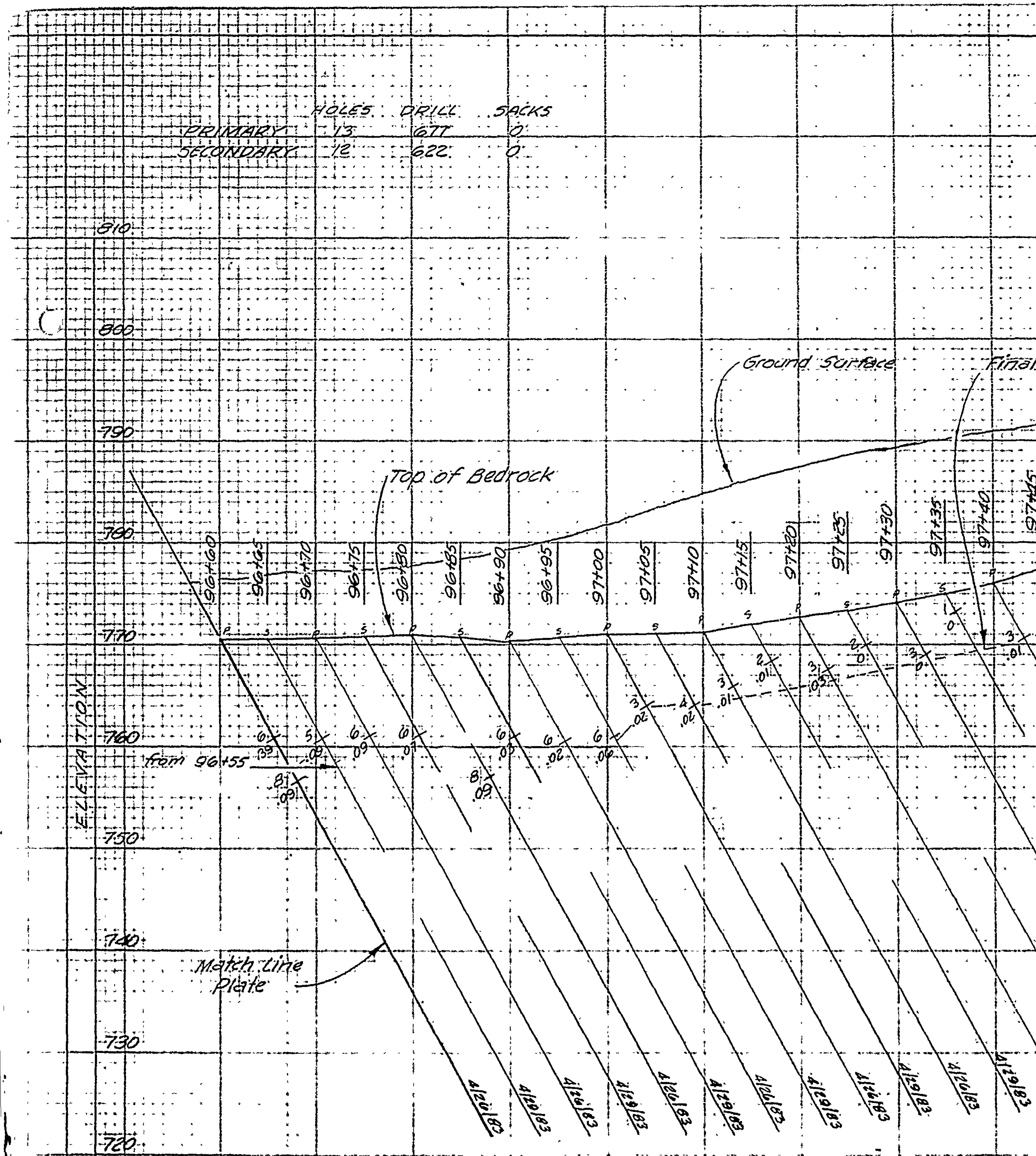
STREAM.

for legend see Plate 44

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by: V.A.	GROUT CURTAIN PROFILE LEFT ABUTMENT LINE C STA. 95+30 TO STA. 96+60
Checked by: C.H.	Scale: AS SHOWN · Sheet number: 55
Submitted by:	Date: JUNE 1990 · Dwg. No.: RBL-2-1275

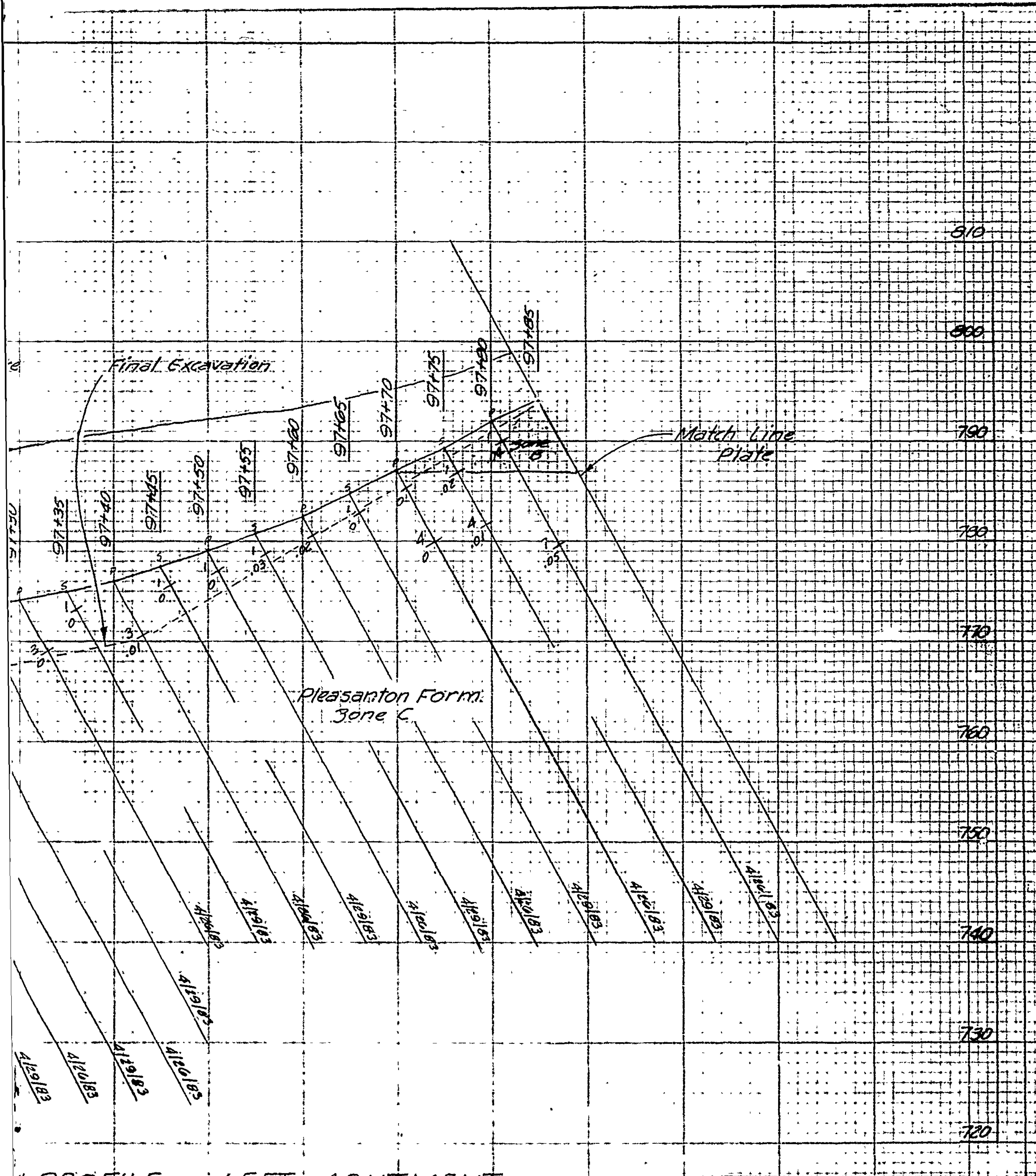
PLATE NO. 55



BLUE SPRINGS LAKE GROUT CURTAIN PROFILE

LINE C ON DAM AXIS STA 96+60

LOOKING UPSTREAM



PROFILE LEFT ABUTMENT

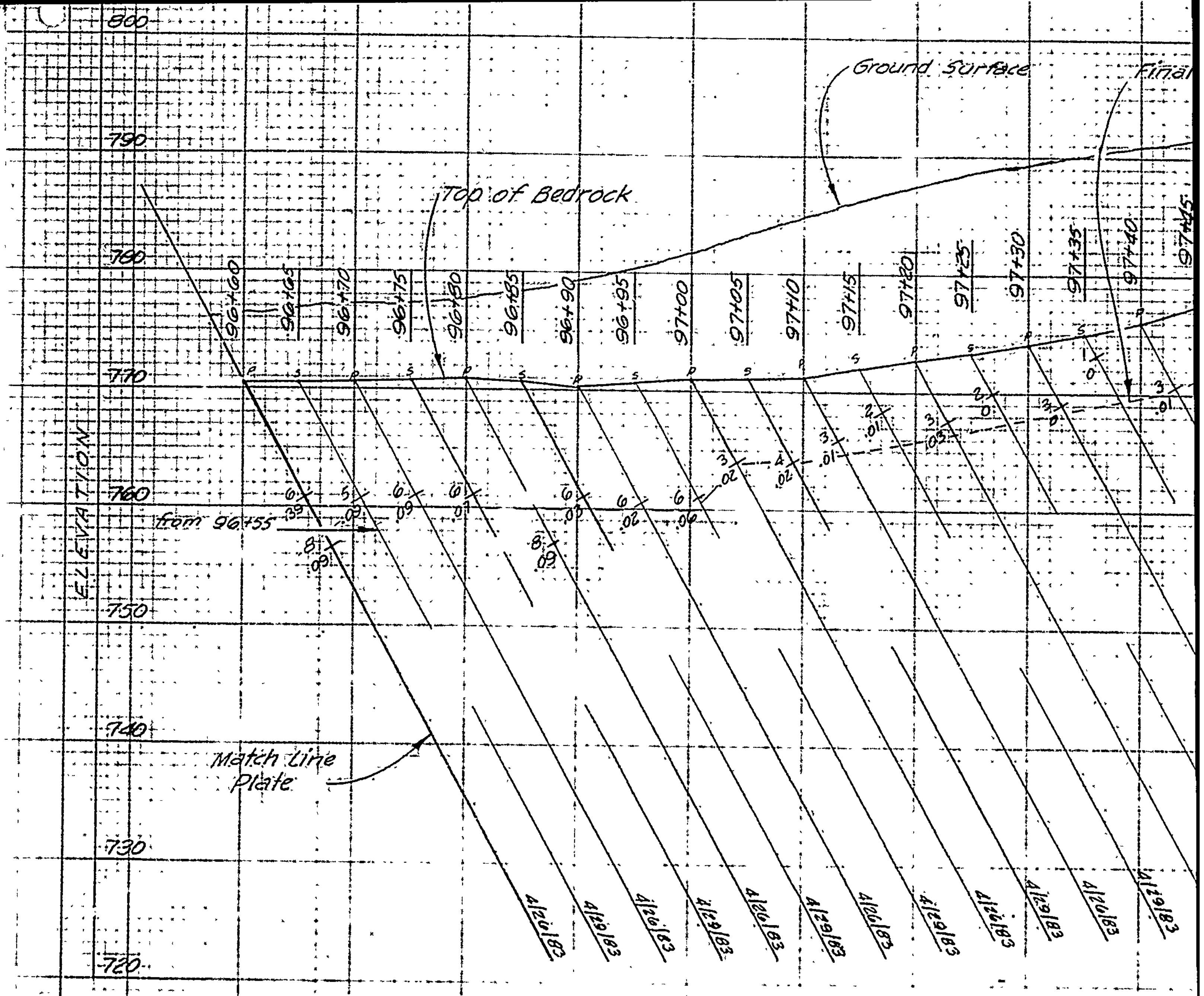
STA 96+60 TO STA 97+85

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:

Drawn by:

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT
GROUT CURTAIN PROFILE



BLUE SPRINGS LAKE GROUT CURTAIN PROFILE

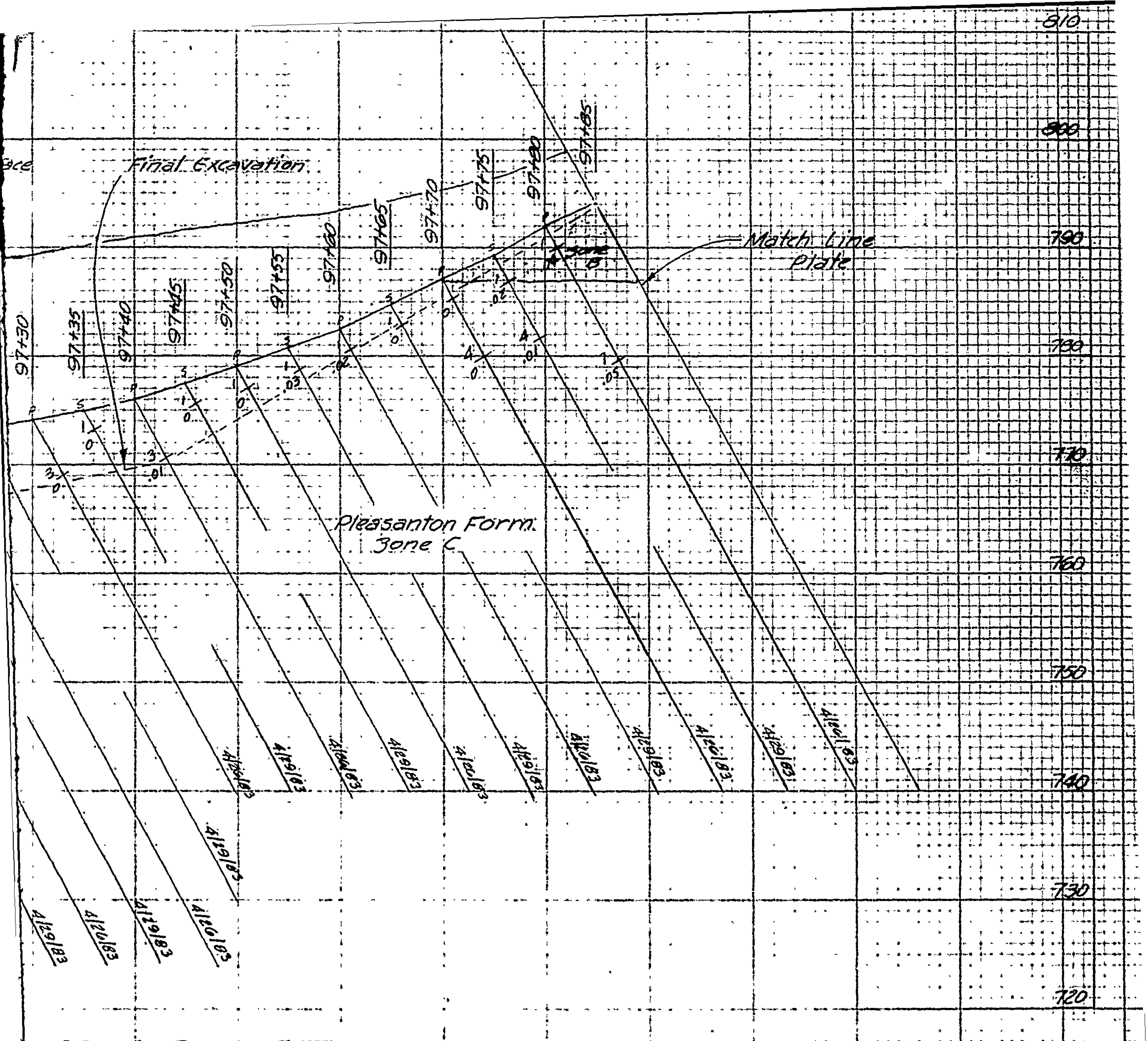
LINE C ON DAM AXIS STA 96+60

LOOKING UPSTREAM

0 10

SCALE IN FEET

for legend see P



/ PROFILE LEFT ABUTMENT

STA 96+60 TO STA 97+85

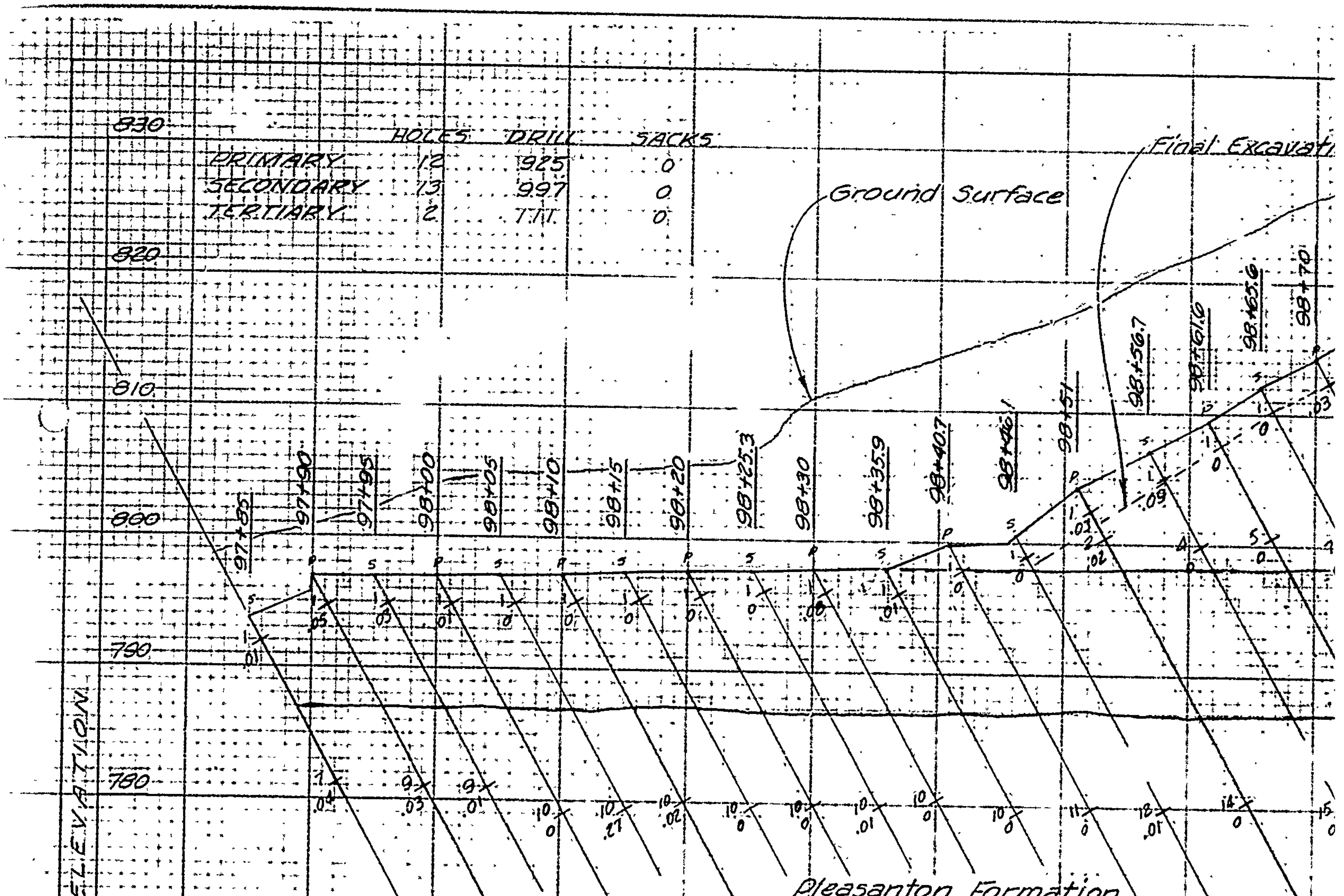
AM

r legend see Plate 44

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT GROUT CURTAIN PROFILE LEFT ABUTMENT LINE C STA. 96+60 TO STA. 97+85
Drawn by: V.A.	
Checked by: C.H.	Scale: AS SHOWN
Submitted by:	Date: JUNE 1990 — Sheet number: 56 — File No.: RBL-2-1276

PLATE NO. 56

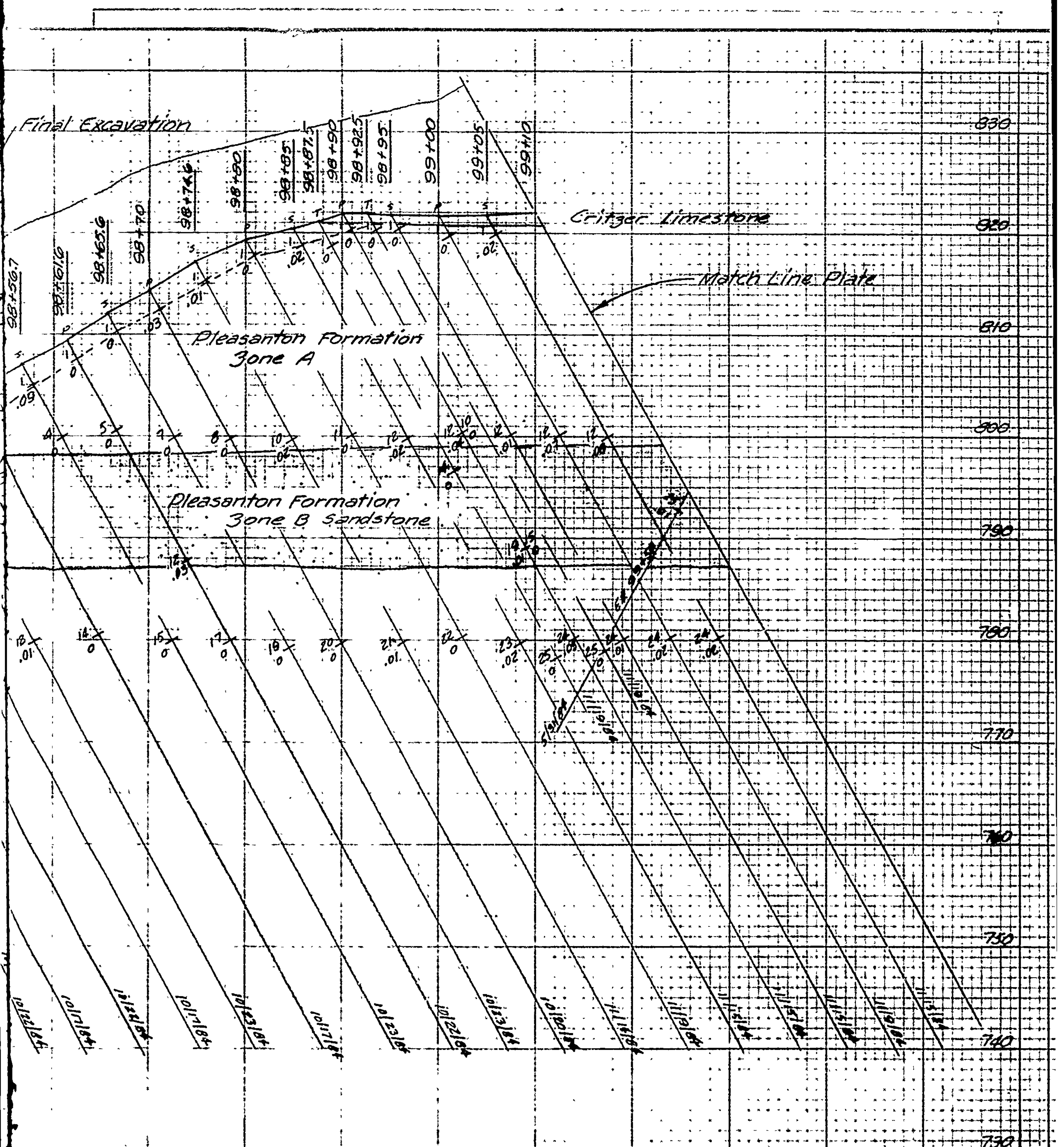


BLUE SPRINGS LAKE GROUT CURTAIN PROFIL

LINE C ON DAM AXIS STA 97+85

LOOKING UPSTREAM

0 10

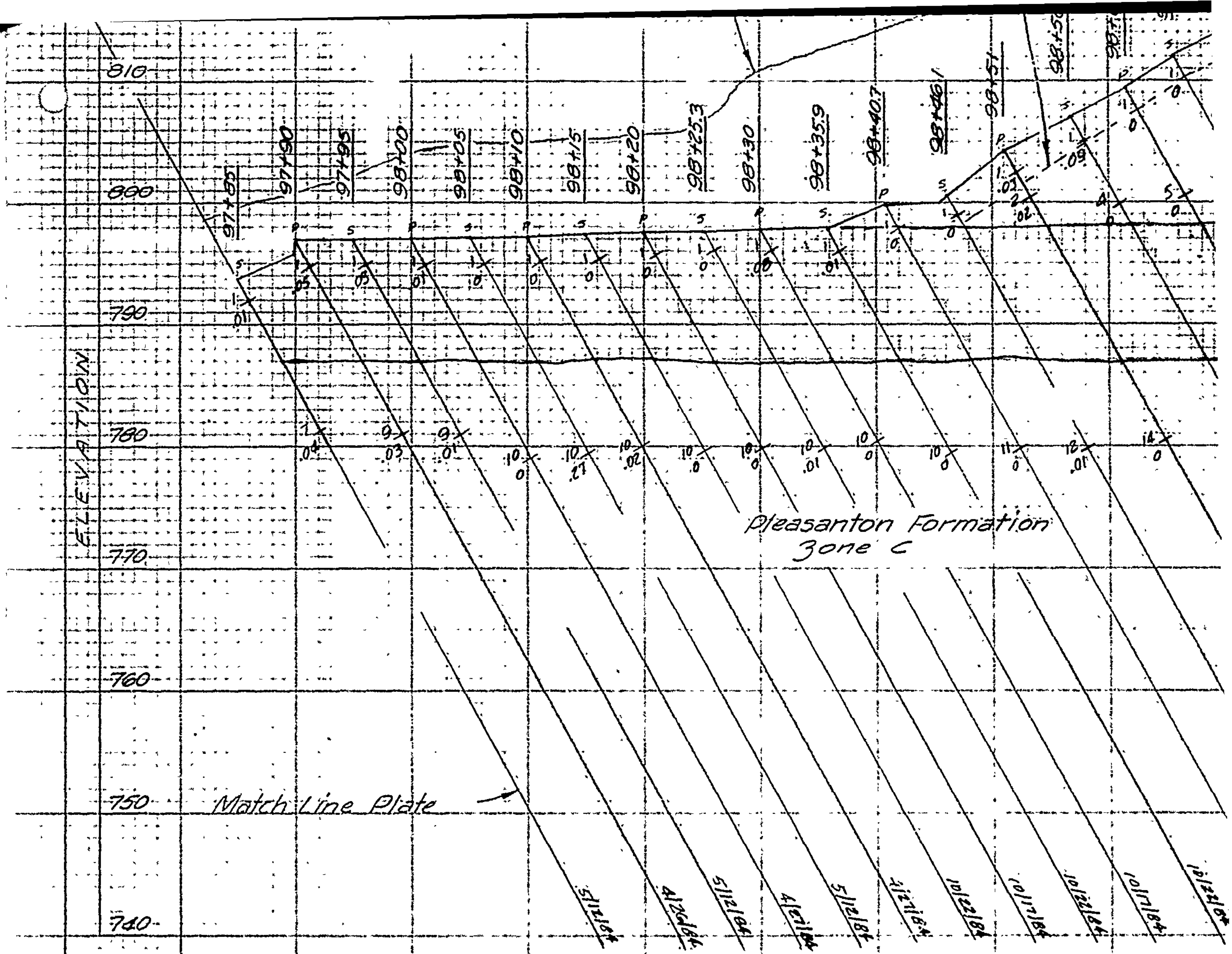


N PROFILE LEFT ABUTMENT
) STA 97+85 TO STA 99+10
REAM

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT



BLUE SPRINGS LAKE GROUT CURTAIN PROFI

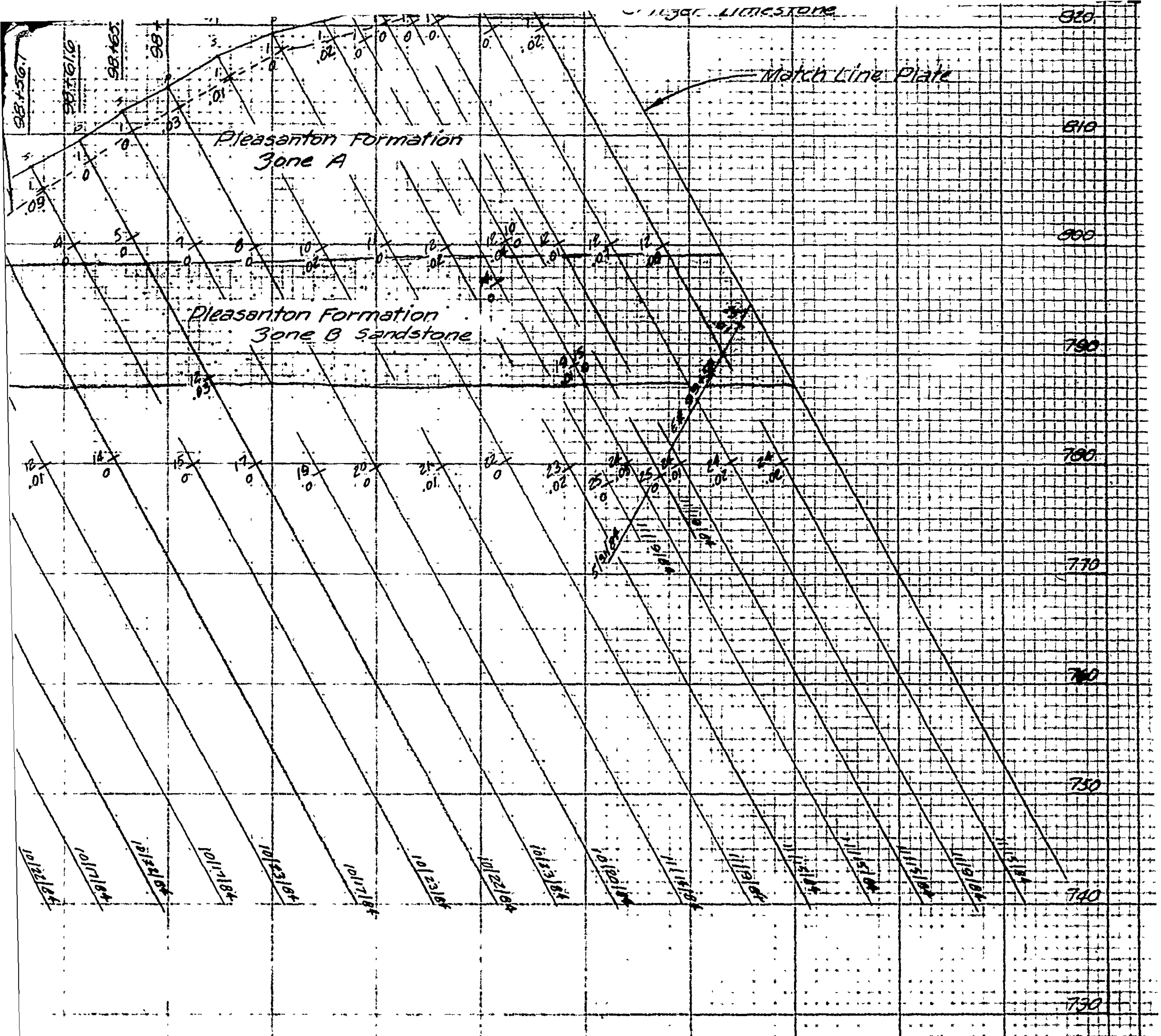
LINE C ON DAM AXIS STA 97+

LOOKING UPSTREAM

0 10

SCALE IN FEET

for legend



IN PROFILE LEFT ABUTMENT

STA 97+85 TO STA 99+10

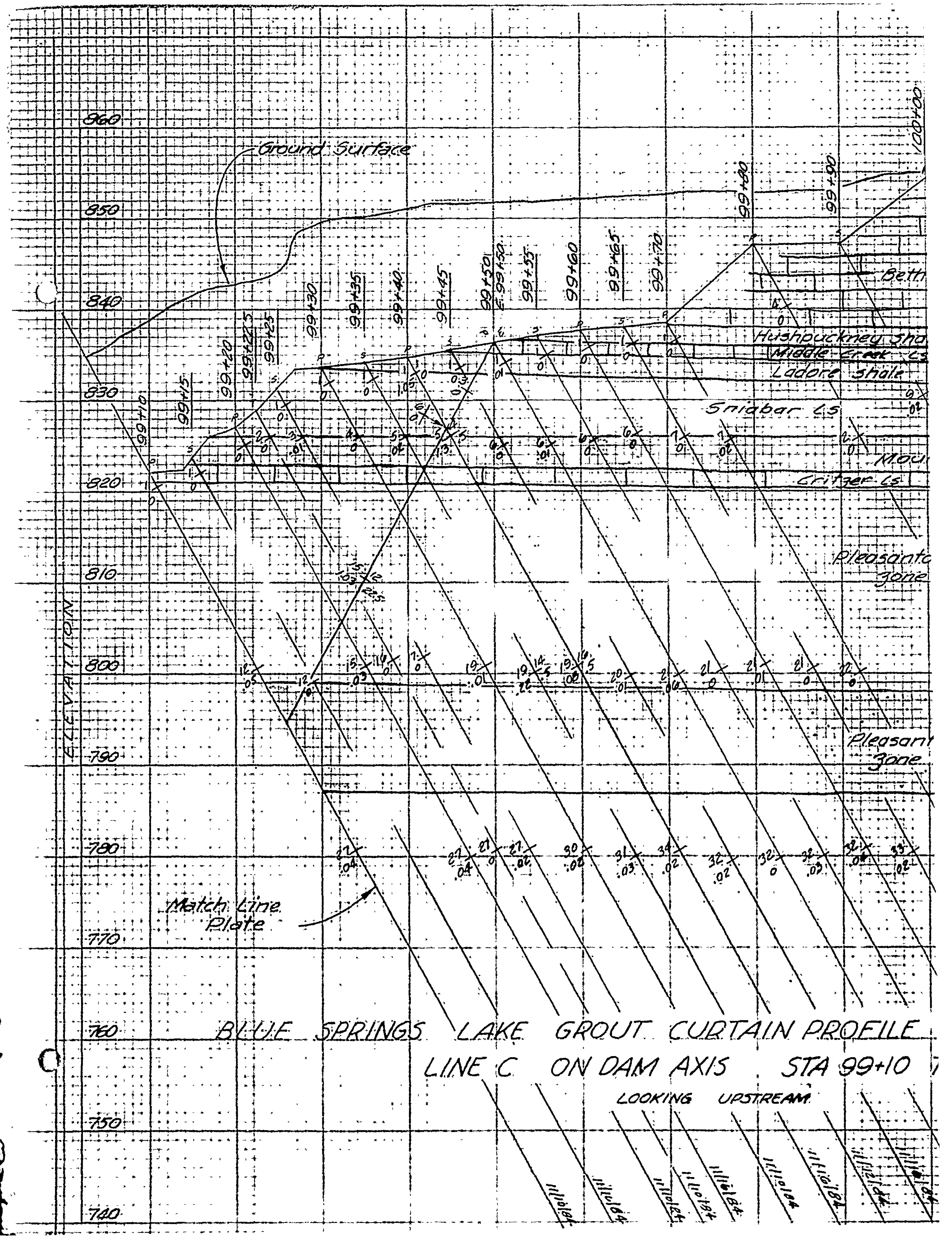
REAM

for legend see plate 44

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by: V.A.	GROUT CURTAIN PROFILE LEFT ABUTMENT LINE C STA. 97+85 TO STA. 99+10
Checked by: C.H.	Scale: AS SHOWN
Submitted by:	Date: JUNE 1990
	Sheet number: 57
	Dwg. No.: RBL-2-1277

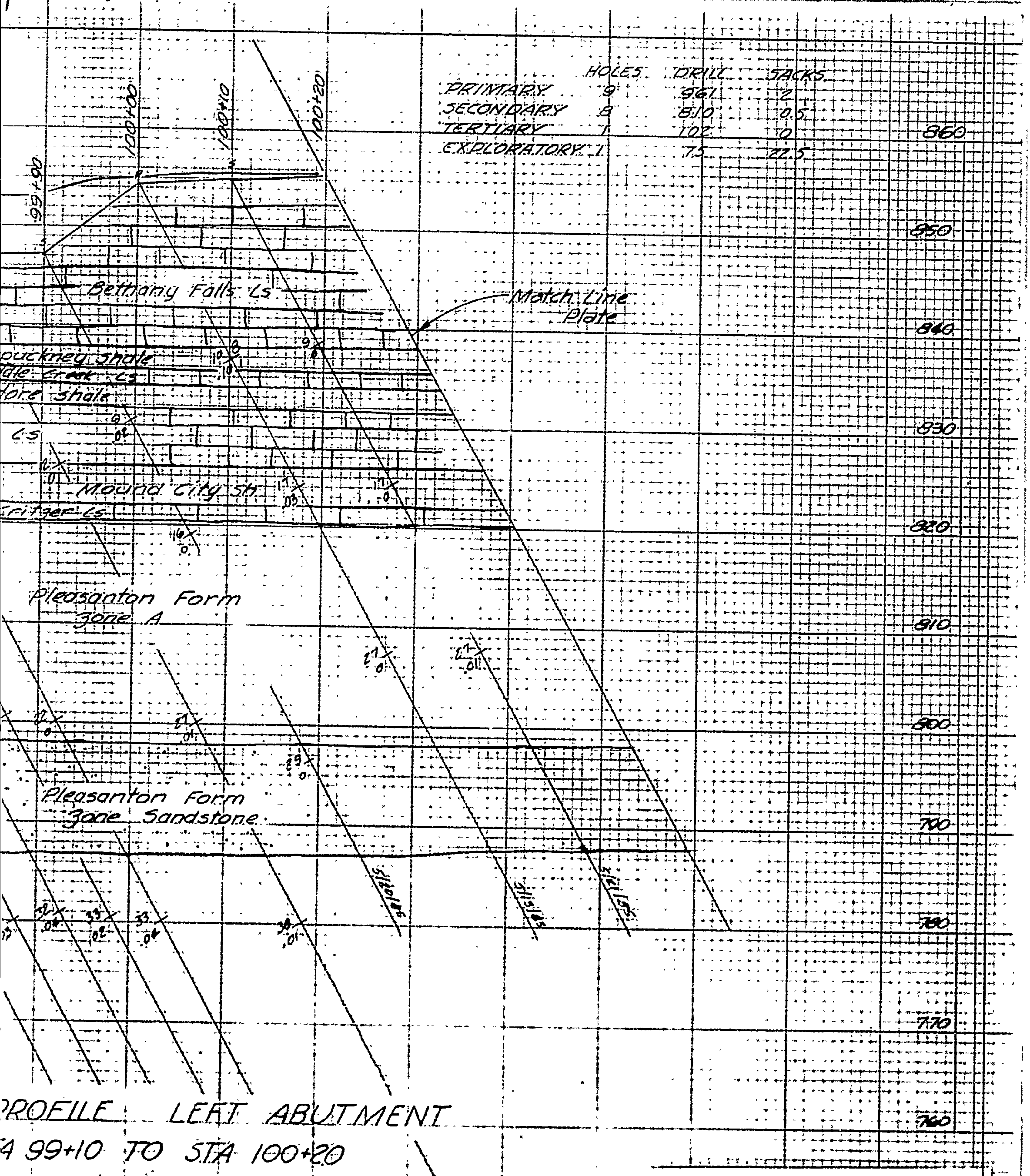
PLATE NO. 57



BLUE SPRINGS LAKE GROUT CURTAIN PROFILE

LINE C ON DAM AXIS STA 99+10

LOOKING UPSTREAM

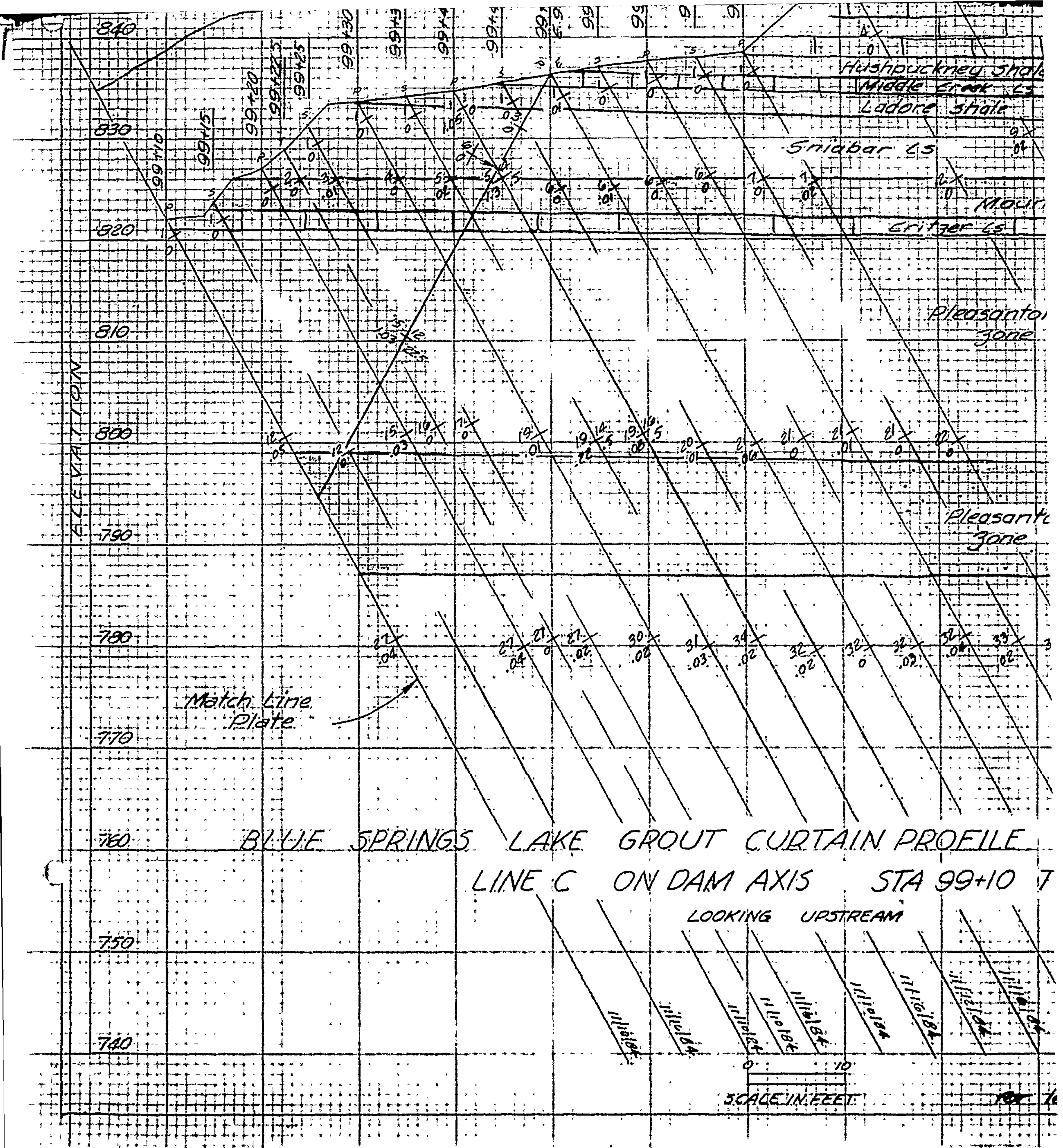


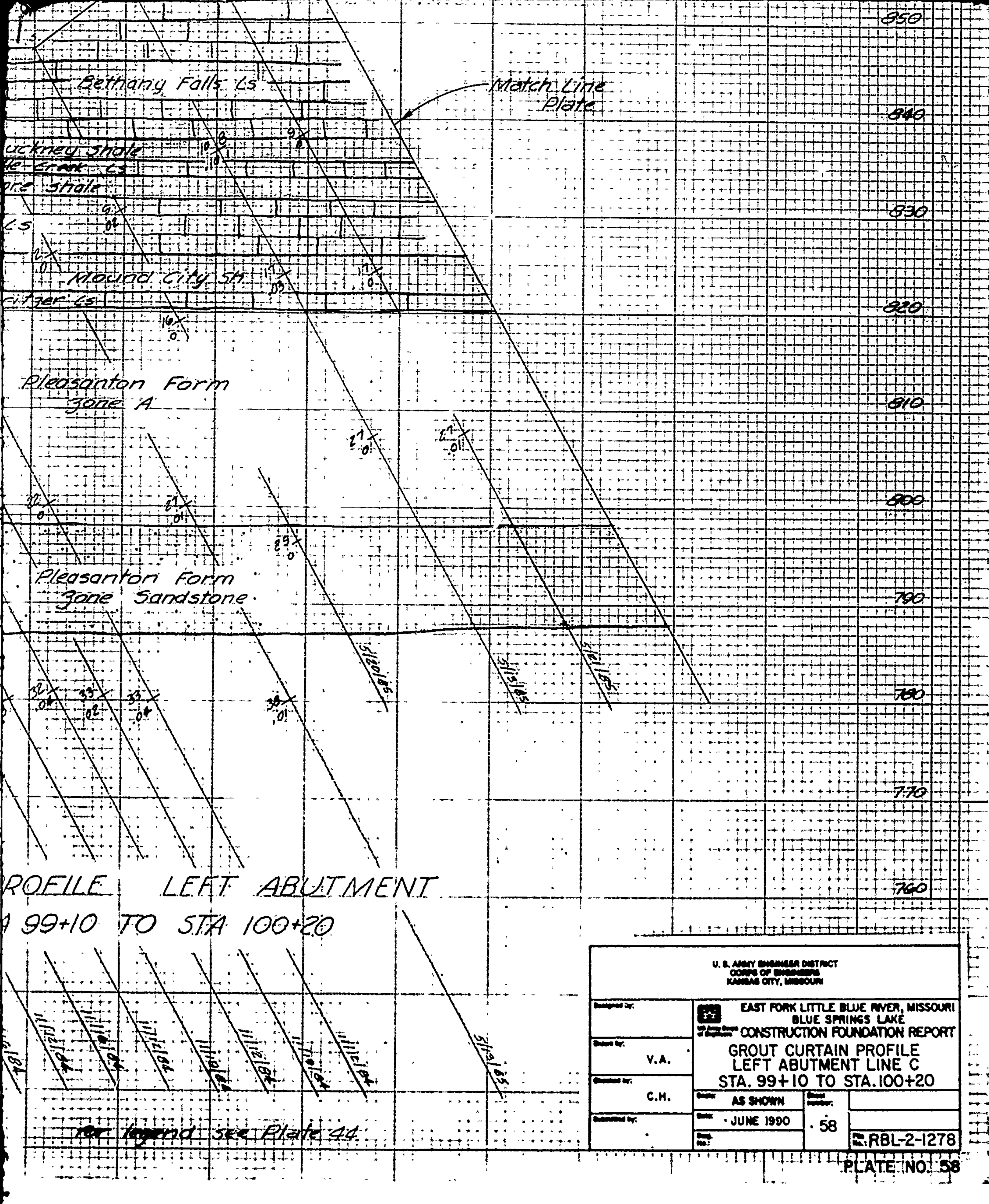
U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

GROUT CURTAIN PROFILE
LEFT ABUTMENT LINE C
STA. 99+10 TO STA. 100+20

Drawn by: V.A.
Checked by: C.H.
Scale: AS SHOWN
Date: JUNE 1990
Sheet number: 58
RBL-2-1278


BLUE SPRINGS LAKE GROUT CURTAIN PROFILE
LINE C ON DAM AXIS STA 99+10
LOOKING UPSTREAM
ELEVATION
840
830
820
810
800
790
780
770
760
750
740
Hushpuckney Shale
Middle Creek Ls
Ladore Shale
Sniabar Ls
Critzer Ls
Pleasanton Zone
Pleasanton Zone
Match Line Plate
99+10
99+15
99+20
99+22.5
99+25
99+30
SCALE IN FEET
0
10



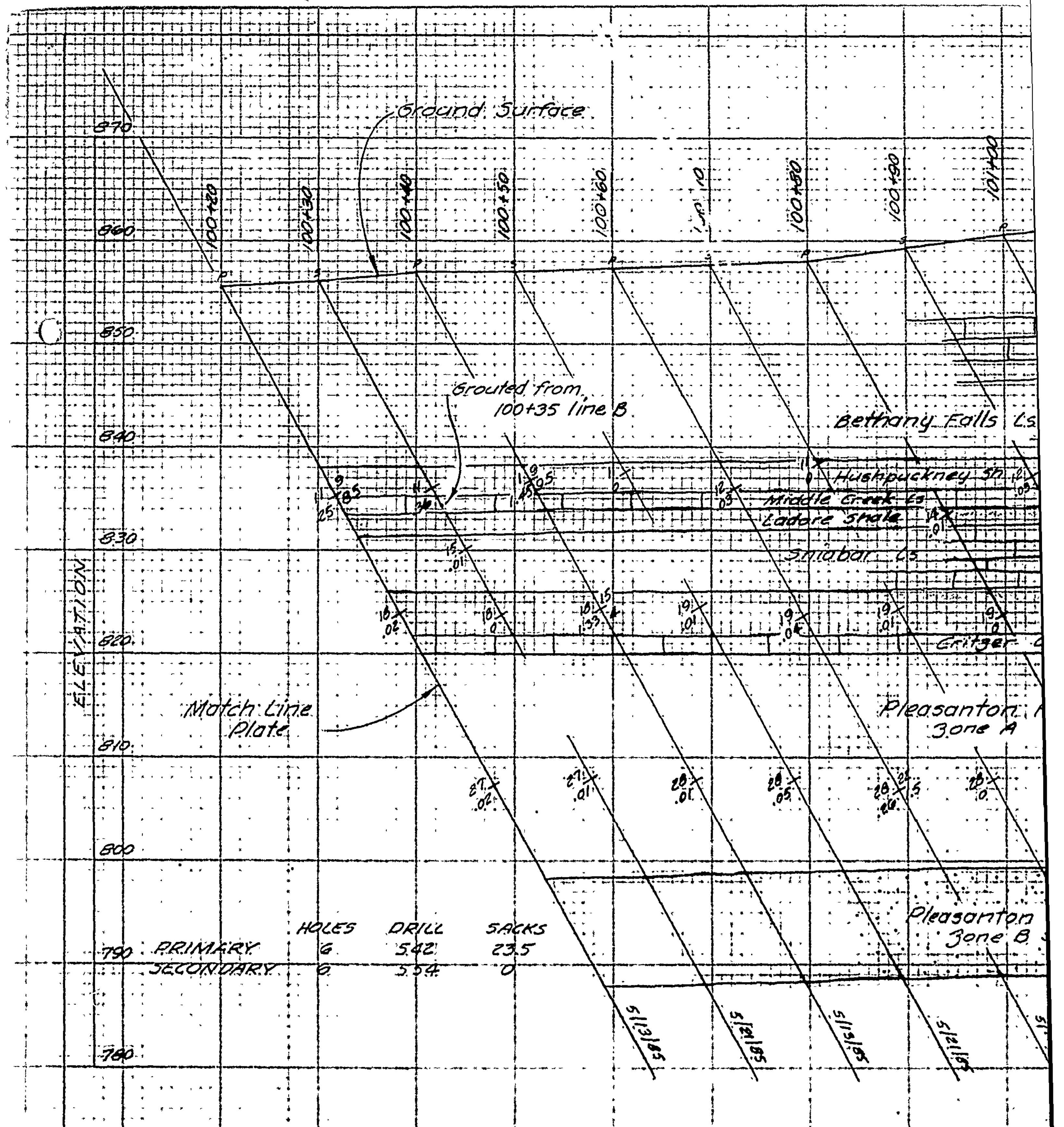
U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

GROUT CURTAIN PROFILE
LEFT ABUTMENT LINE C
STA. 99+10 TO STA. 100+20

Designed by:			
Drawn by: V.A.			
Checked by: C.H.	Scale: AS SHOWN	Sheet number:	
Submitted by:	Date: JUNE 1990	58	
	Dwg. No.:		File No.: RBL-2-1278

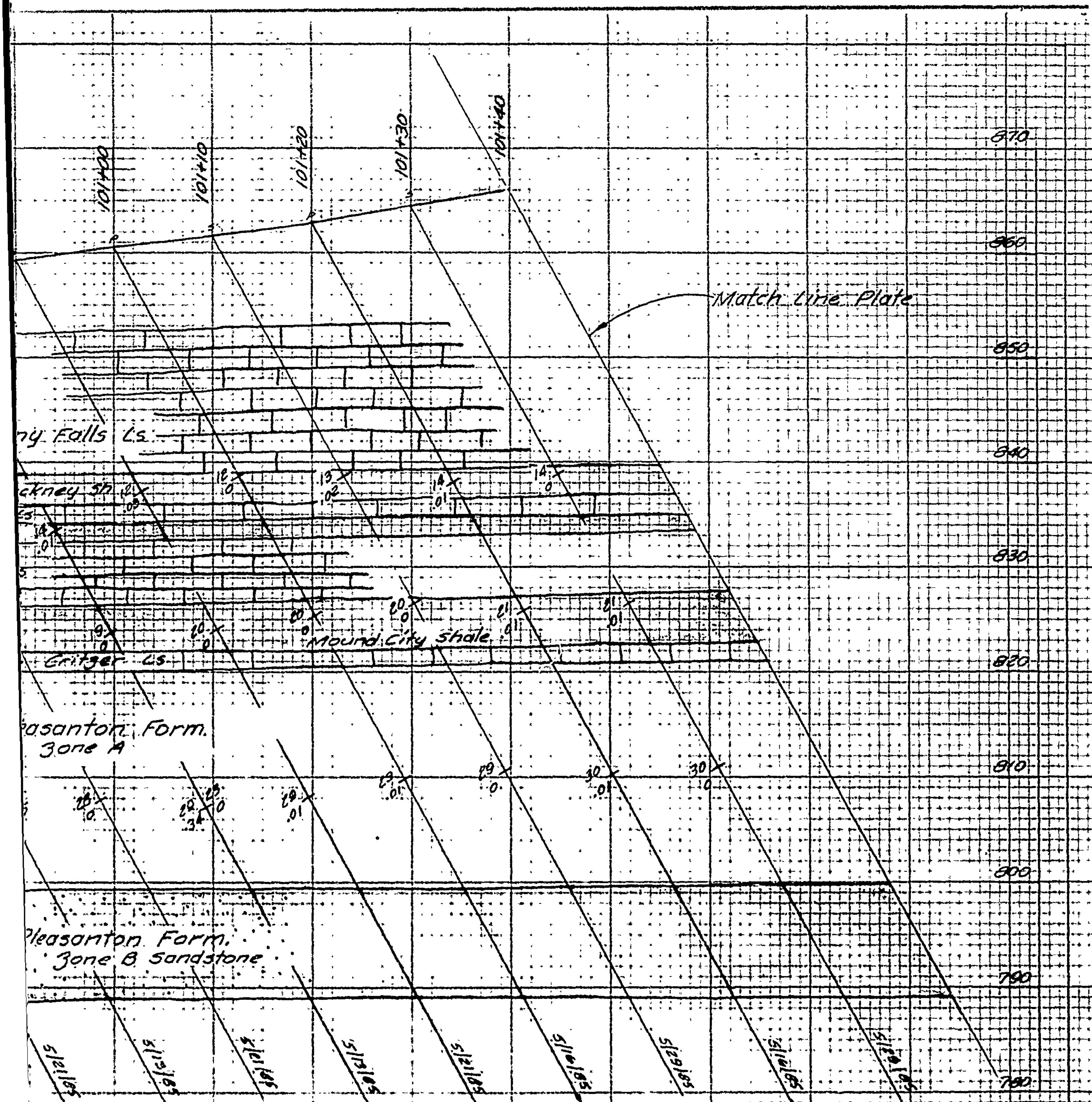
PLATE NO. 58



BLUE SPRINGS LAKE GROUT CURTAIN PROFILE

LINE C ON DAM AXIS STA 100+20

LOOKING UPSTREAM



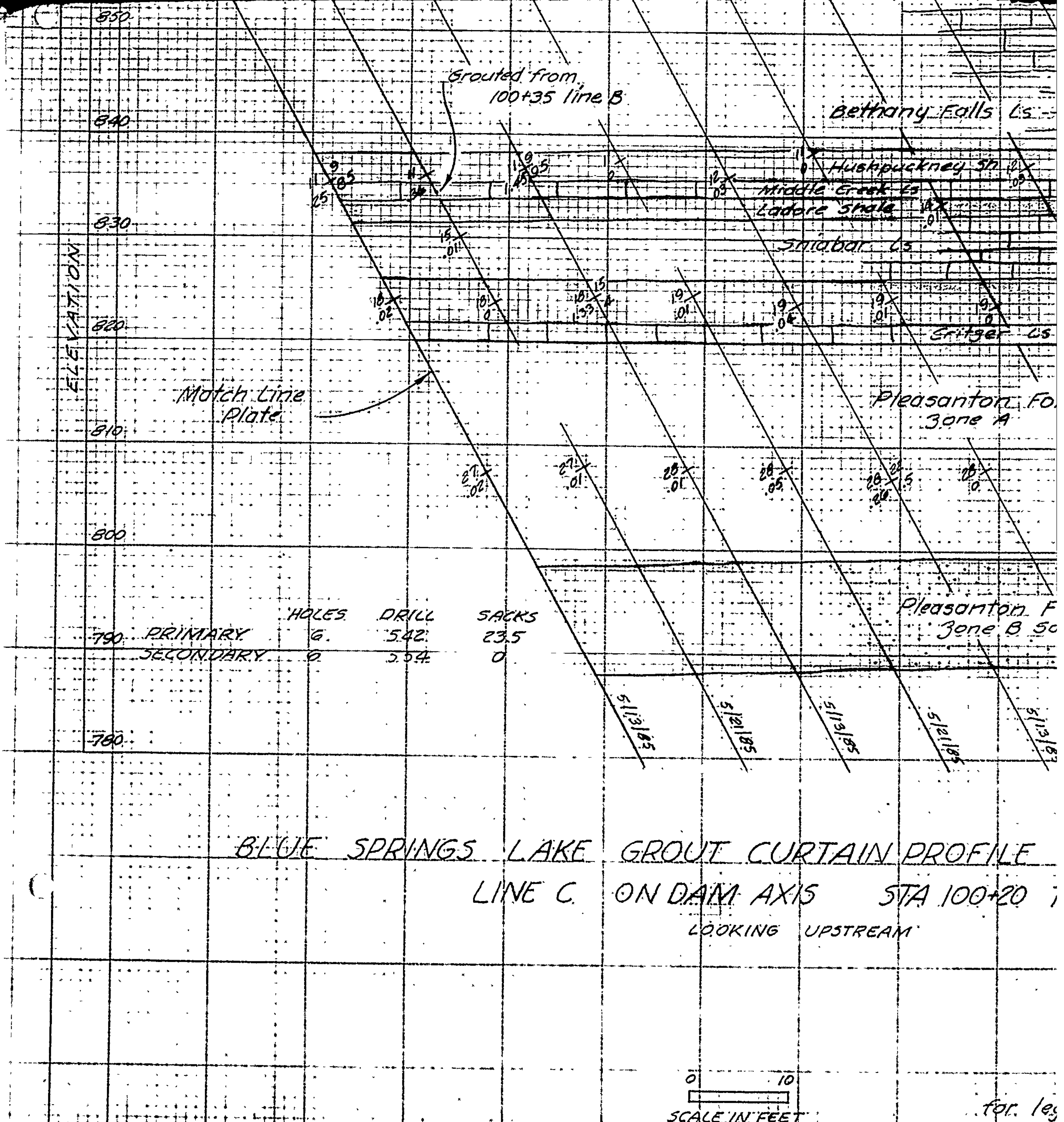
PROFILE LEFT ABUTMENT

A 100+20 TO STA 101+40

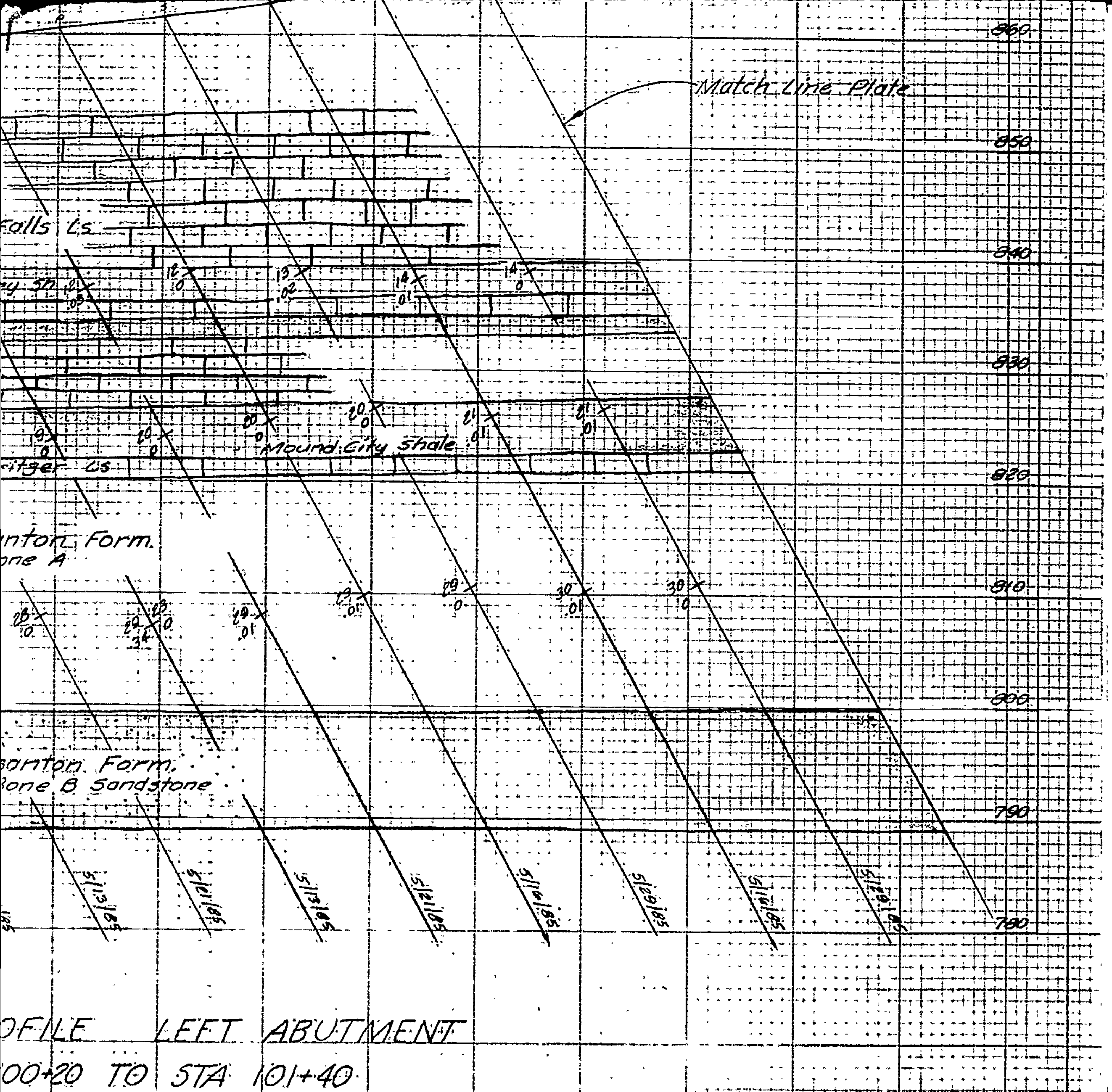
U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT



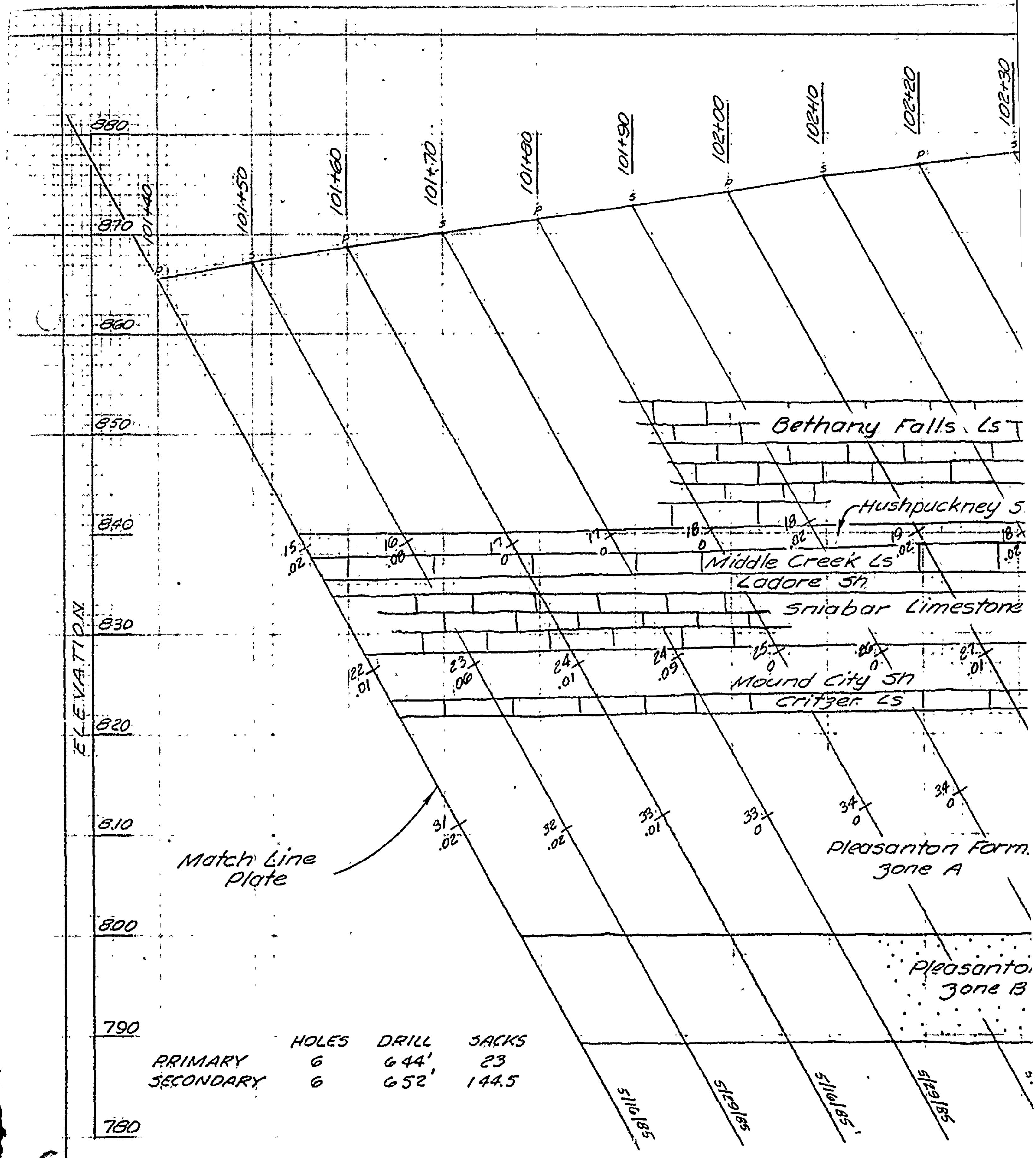
850
840
830
820
810
800
790
780
ELEVATION
Grouted from
100+35 line B
Bethany Falls Ls
Hushpuckney Sh
Middle Creek Ls
Ladore Shale
Swope Ls
Critzer Ls
Match Line
Plate
Pleasanton Fo
Zone A
Pleasanton F
Zone B
HOLES
DRILL
SACKS
PRIMARY 6 542 23.5
SECONDARY 6 554 0
5/13/85
5/21/85
5/13/85
5/21/85
5/13/85
BLUE SPRINGS LAKE GROUT CURTAIN PROFILE
LINE C ON DAM AXIS STA 100+20
LOOKING UPSTREAM
0
10
SCALE IN FEET
for leg



for legend see Plate 44

U. S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS KANSAS CITY, MISSOURI	
Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by: V.A.	GROUT CURTAIN PROFILE LEFT ABUTMENT LINE C STA.100+20 TO STA.101+40
Checked by: C.H.	Scale: AS SHOWN
Submitted by:	Date: JUNE 1990
	Sheet number: 59
	File No.: RBL-2-1279

PLATE NO. 59

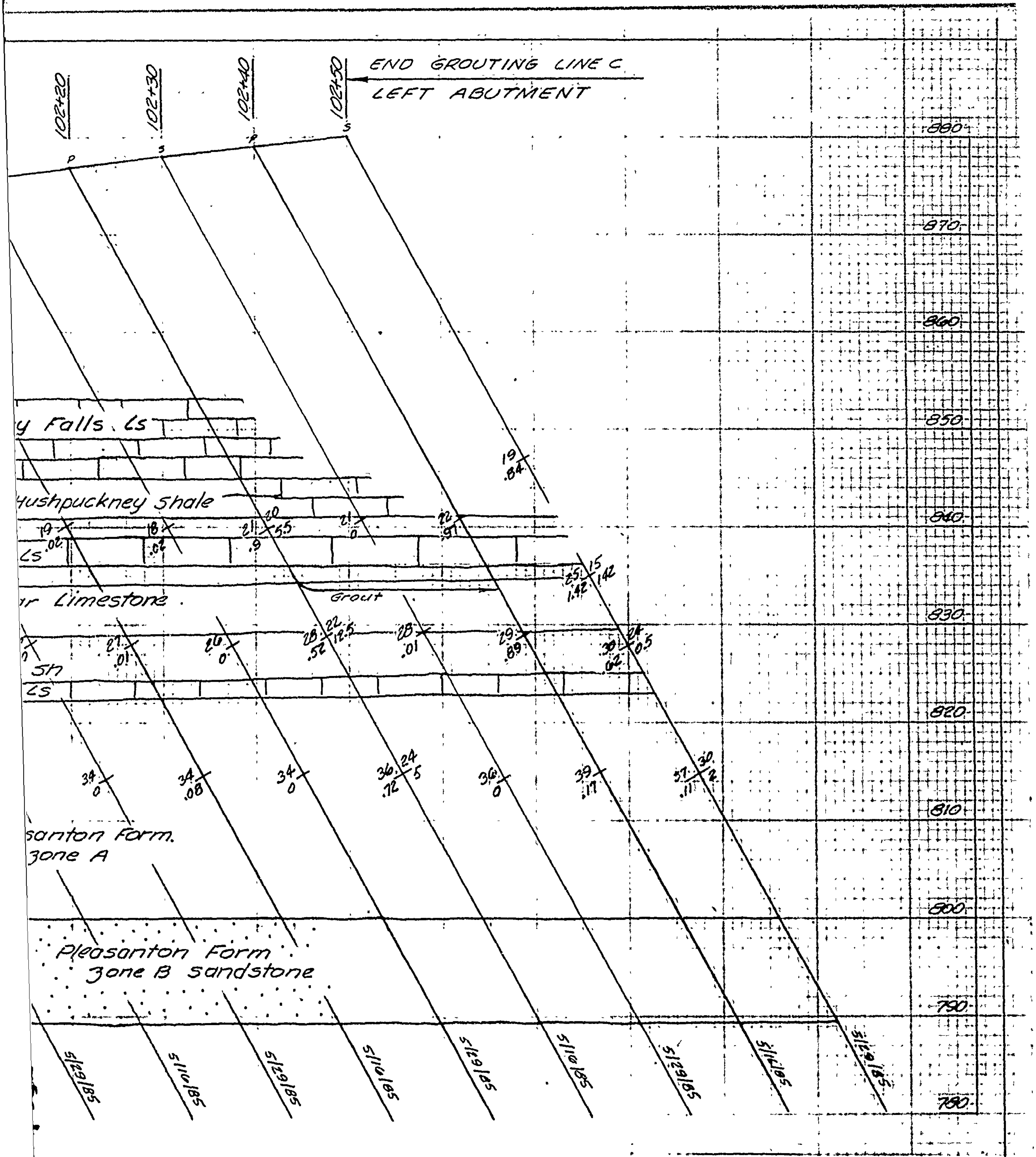


BLUE SPRINGS LAKE GROUT CURTAIN PROFILE

LINE C ON DAM AXIS STA 101+40 T

LOOKING UPSTREAM

0 10



ROFILE LEFT ABUTMENT

101+40 TO STA 102+50

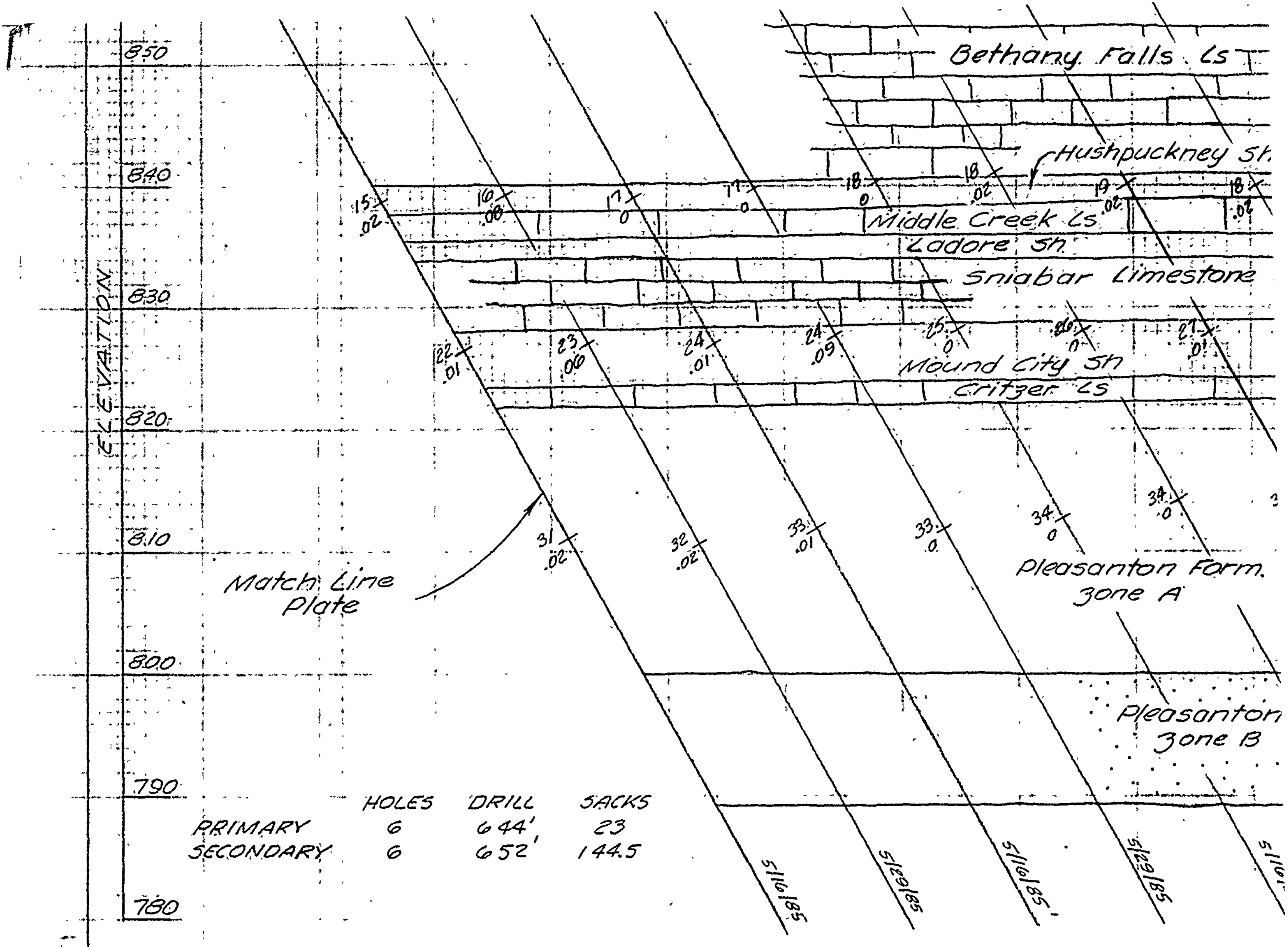
U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:

Drawn by: V.A.

Checked by:

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT
GROUT CURTAIN PROFILE
LEFT ABUTMENT LINE C
STA 101+40 TO STA 102+50



	HOLES	DRILL	SACKS
PRIMARY	6	644'	23
SECONDARY	6	652'	144.5

BLUE SPRINGS LAKE GROUT CURTAIN PROFILE

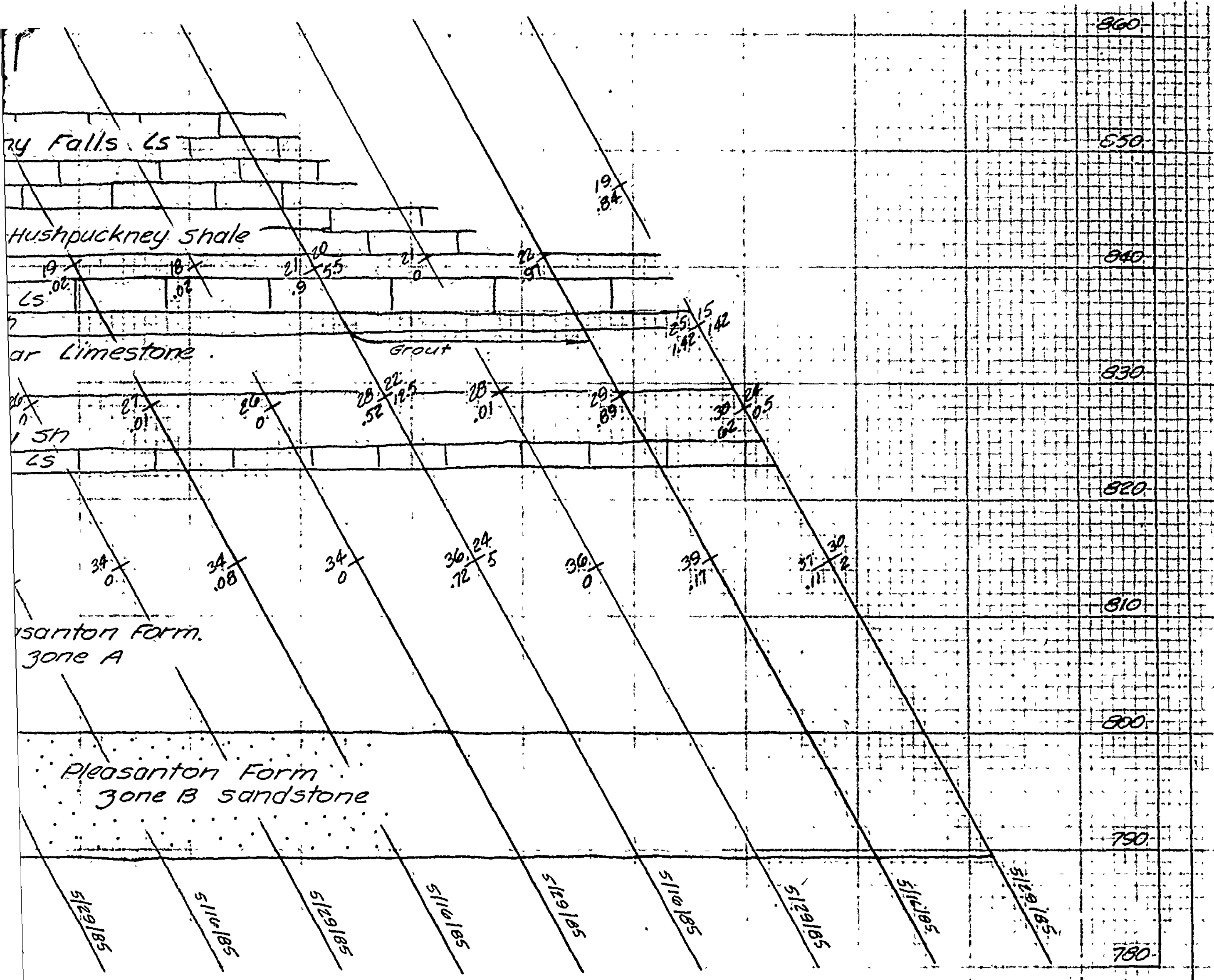
LINE C ON DAM AXIS STA 101+40 TO

LOOKING UPSTREAM

0 10

SCALE IN FEET

for legend se



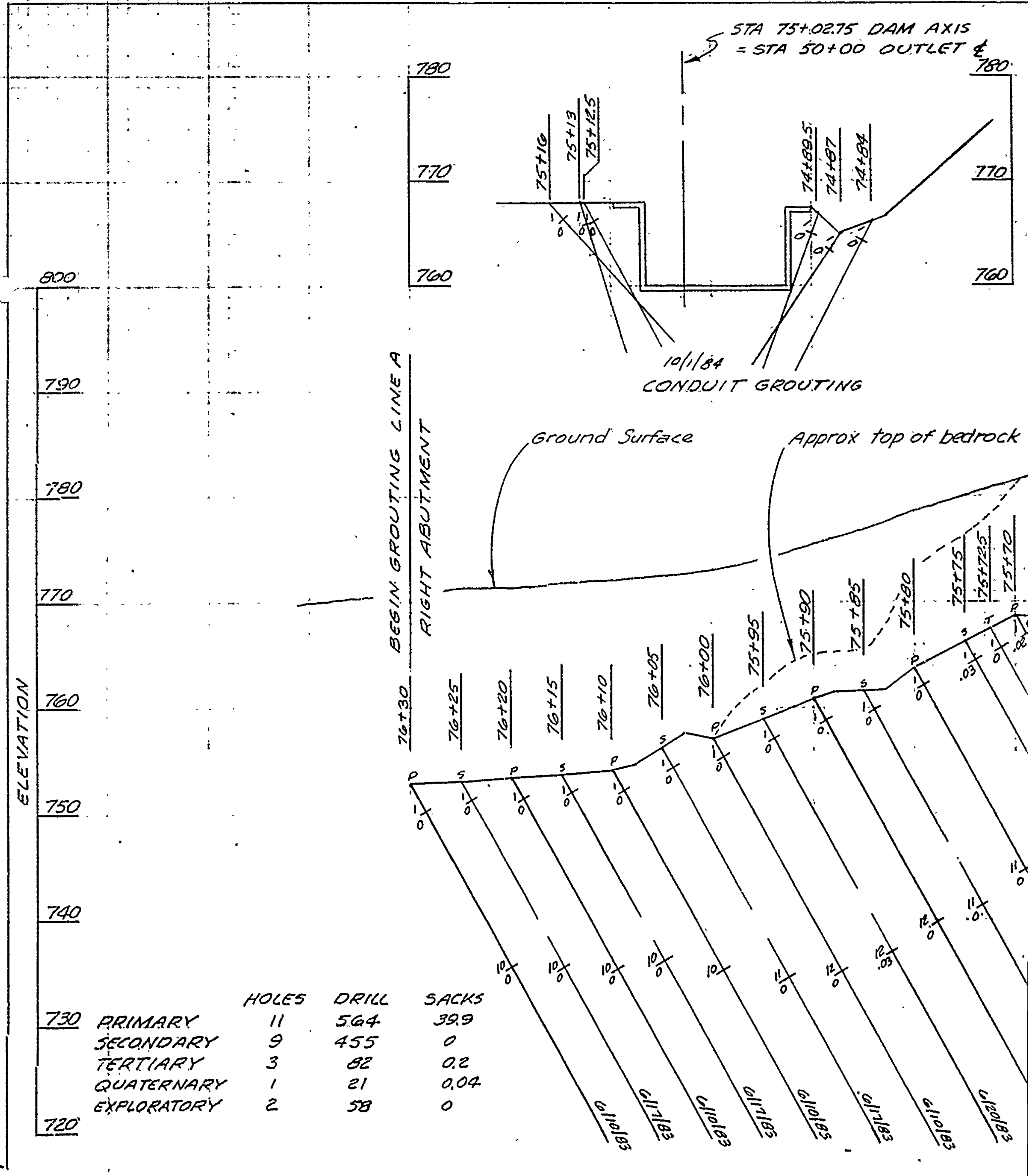
PROFILE LEFT ABUTMENT

TA 101+40 TO STA 102+50

for legend see Plate 44

U. S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS KANSAS CITY, MISSOURI	
Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by: V.A.	GROUT CURTAIN PROFILE LEFT ABUTMENT LINE C STA. 101+40 TO STA. 102+50
Checked by: C.H.	Scale: AS SHOWN — Sheet number: 60
Submitted by:	Date: JUNE 1990 — File No.: RBL-2-1280

PLATE NO. 60



	HOLES	DRILL	SACKS
PRIMARY	11	564	39.9
SECONDARY	9	455	0
TERTIARY	3	82	0.2
QUATERNARY	1	21	0.04
EXPLORATORY	2	58	0

BLUE SPRINGS LAKE GROUT CURTAIN PROFIL

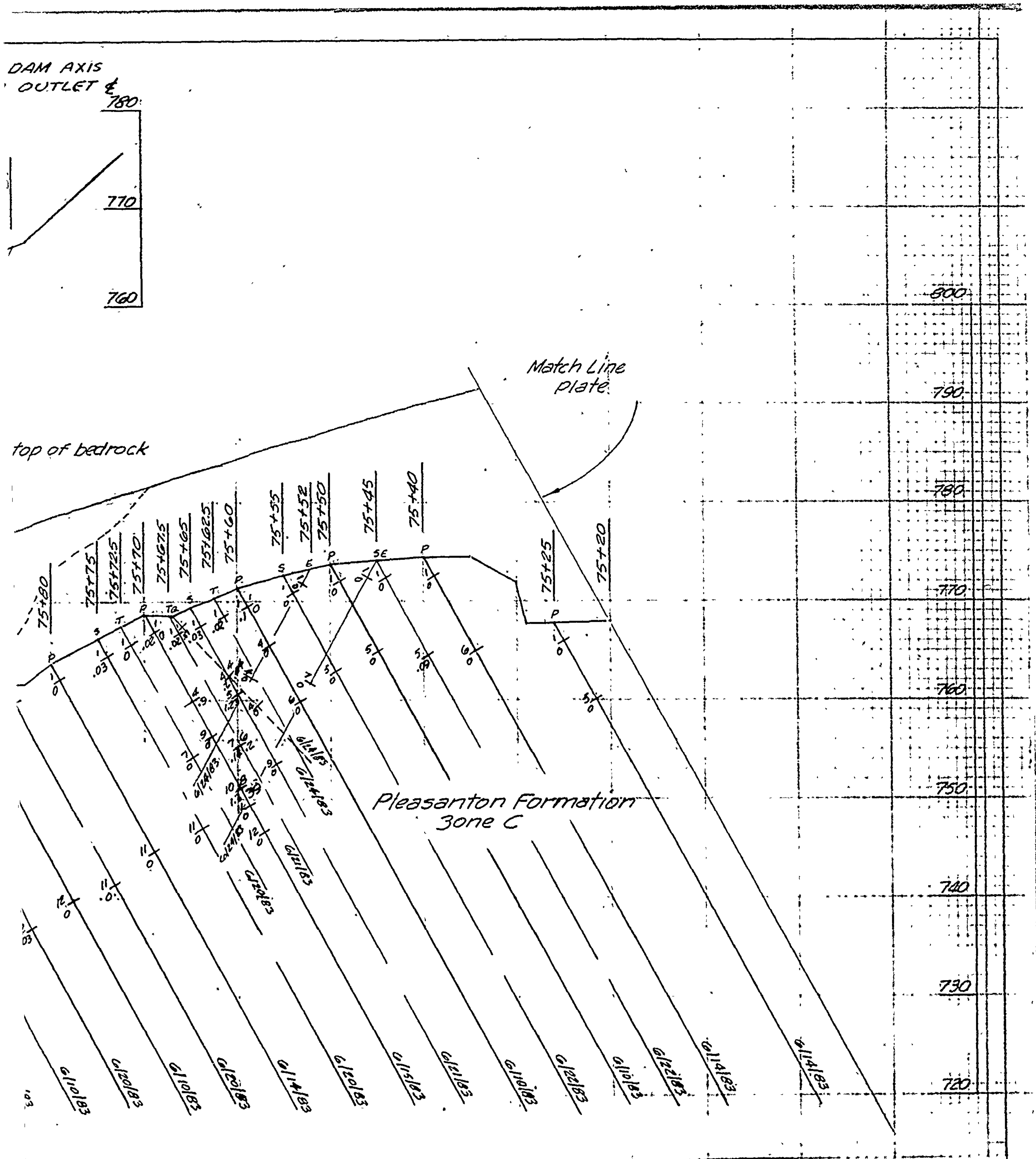
LINE A 5 FEET DOWNSTREAM STA 7

LOOKING DOWNSTREAM

0 10

SCALE IN FEET

for

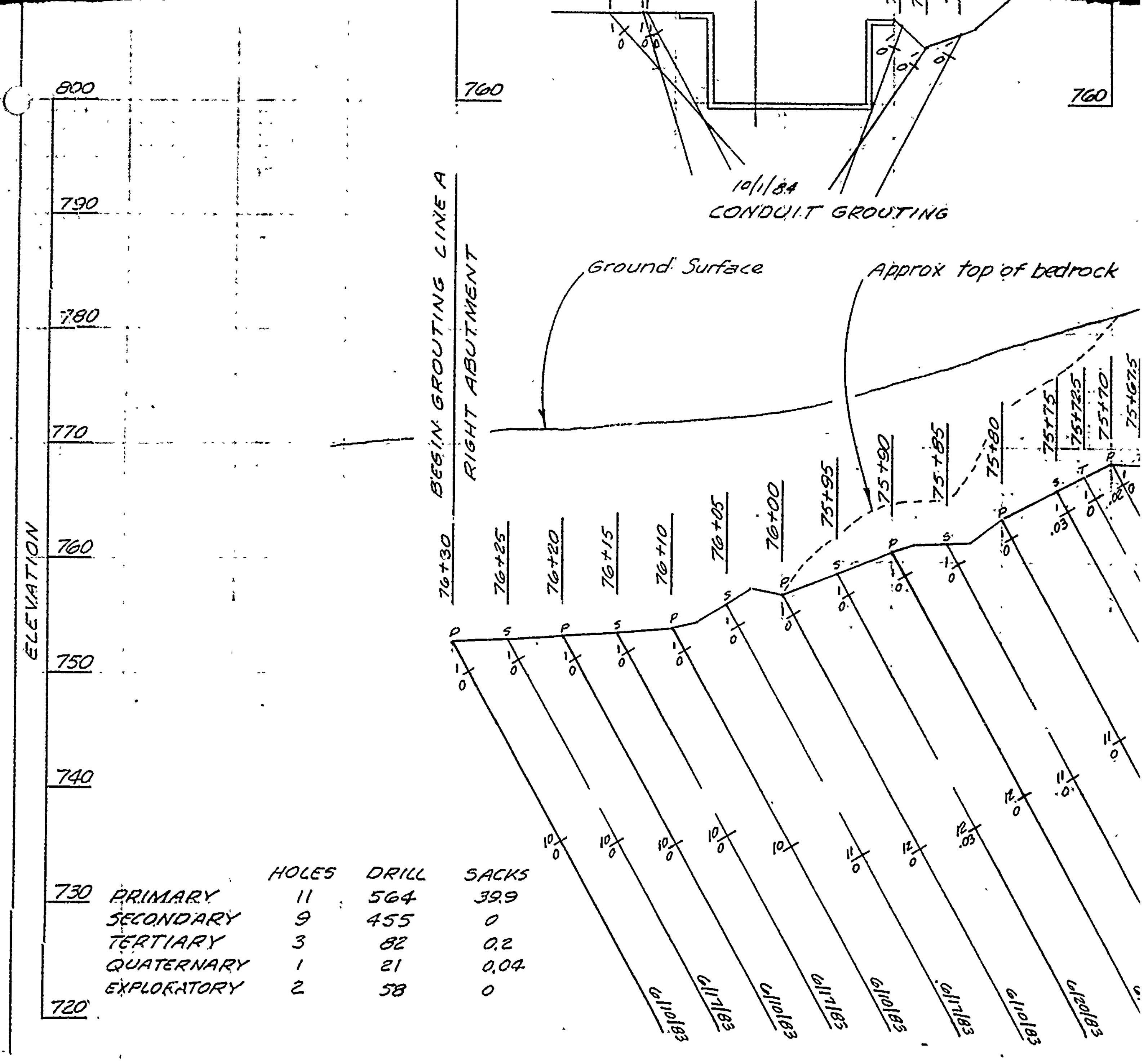


PROFILE RIGHT ABUTMENT

M STA 76+30 TO STA 75+20

REAM

U. S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS KANSAS CITY, MISSOURI	
Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by: V.A.	GROUT CURTAIN PROFILE



	HOLES	DRILL	SACKS
PRIMARY	11	564	39.9
SECONDARY	9	455	0
TERTIARY	3	82	0.2
QUATERNARY	1	21	0.04
EXPLORATORY	2	58	0

BLUE SPRINGS LAKE GROUT CURTAIN PROFILE

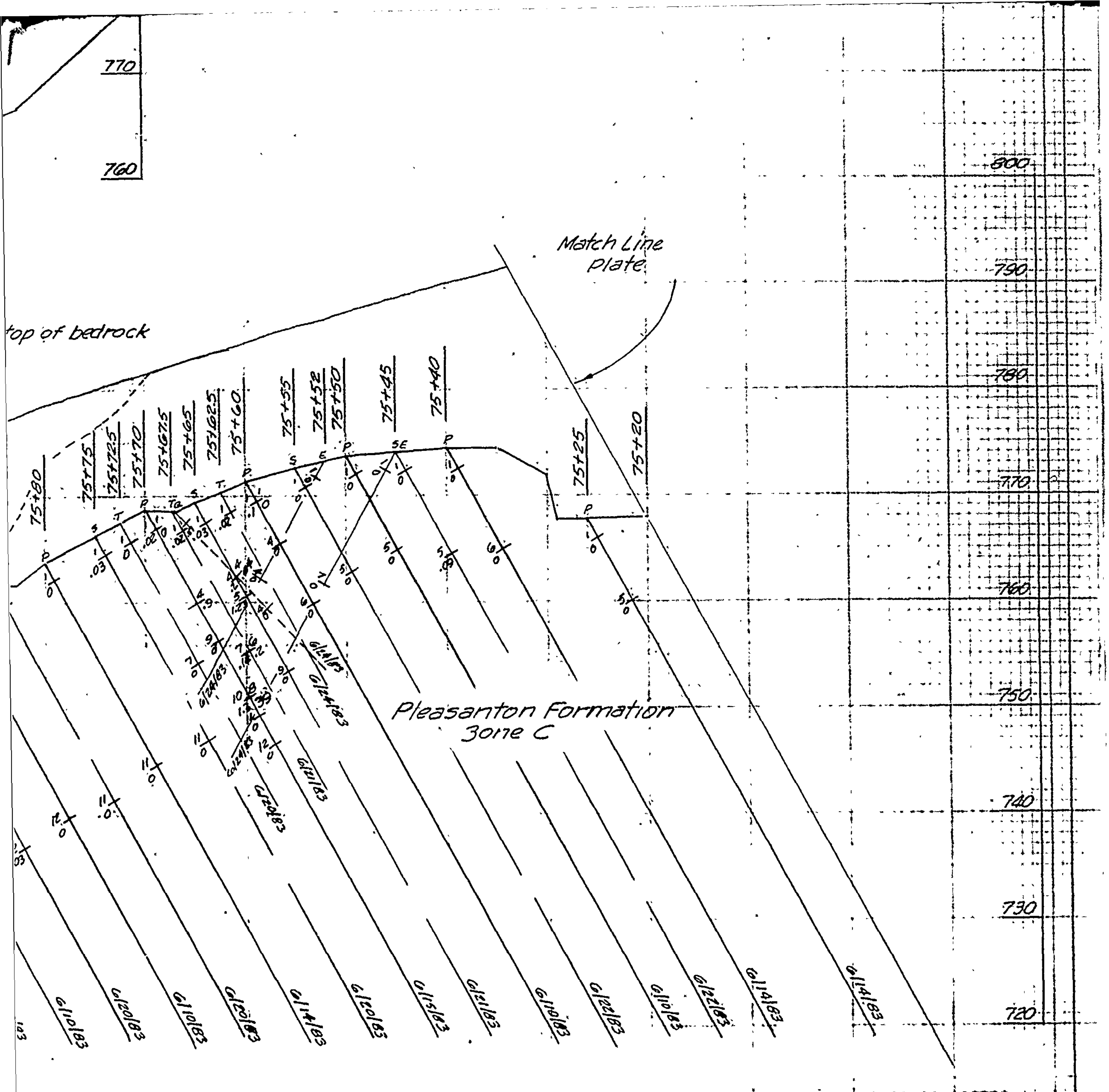
LINE A 5 FEET DOWNSTREAM STA 76+

LOOKING DOWNSTREAM

0 10

SCALE IN FEET

for /



' PROFILE RIGHT ABUTMENT

M STA 76+30 TO STA 75+20

TREAM

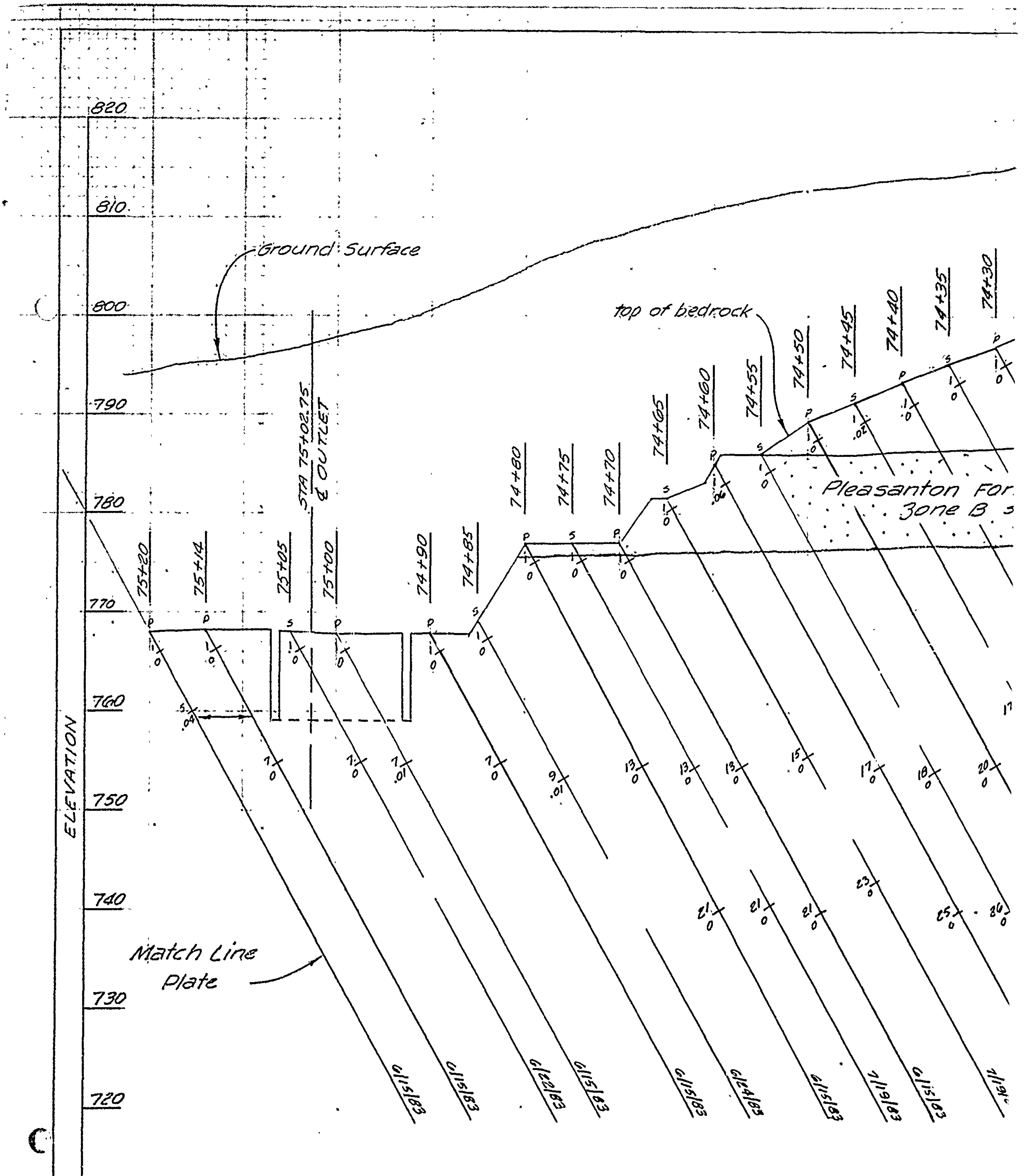
for legend see Plate 44

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT
GROUT CURTAIN PROFILE
RIGHT ABUTMENT LINE A
STA. 76+30 TO STA. 75+20

Designed by:	
Drawn by:	V.A.
Checked by:	C.H.
Submitted by:	
Scale:	AS SHOWN
Date:	JUNE 1990
Sheet number:	61
File No.:	RBL-2-1281

PLATE NO. 61

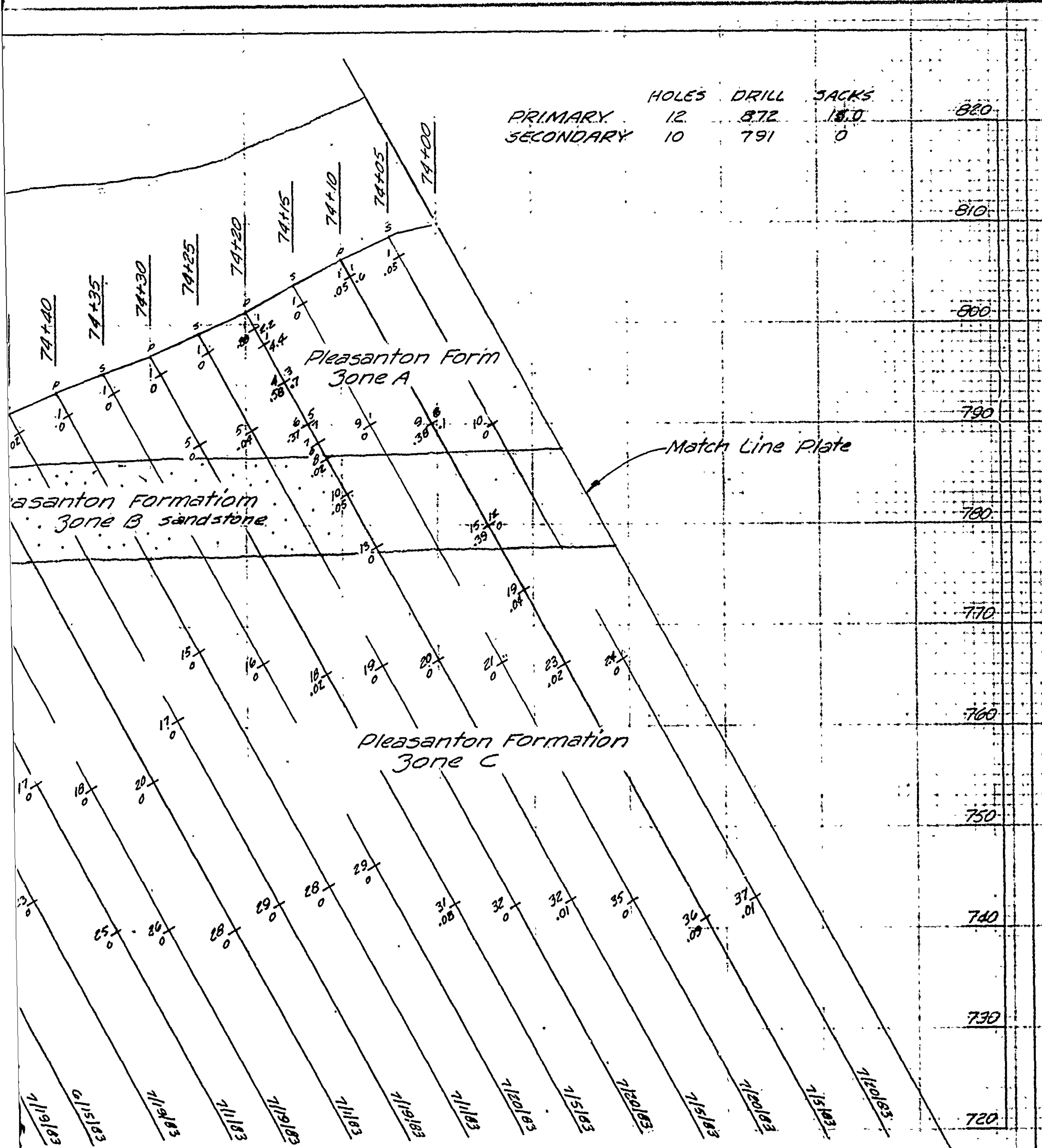


BLUE SPRINGS LAKE GROUT CURTAIN PROFIL

LINE A 5 FEET DOWNSTREAM STA 75

LOOKING DOWNSTREAM

0 10



N PROFILE RIGHT ABUTMENT

M STA 75+20 TO STA 74+00

WNSTREAM

10

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

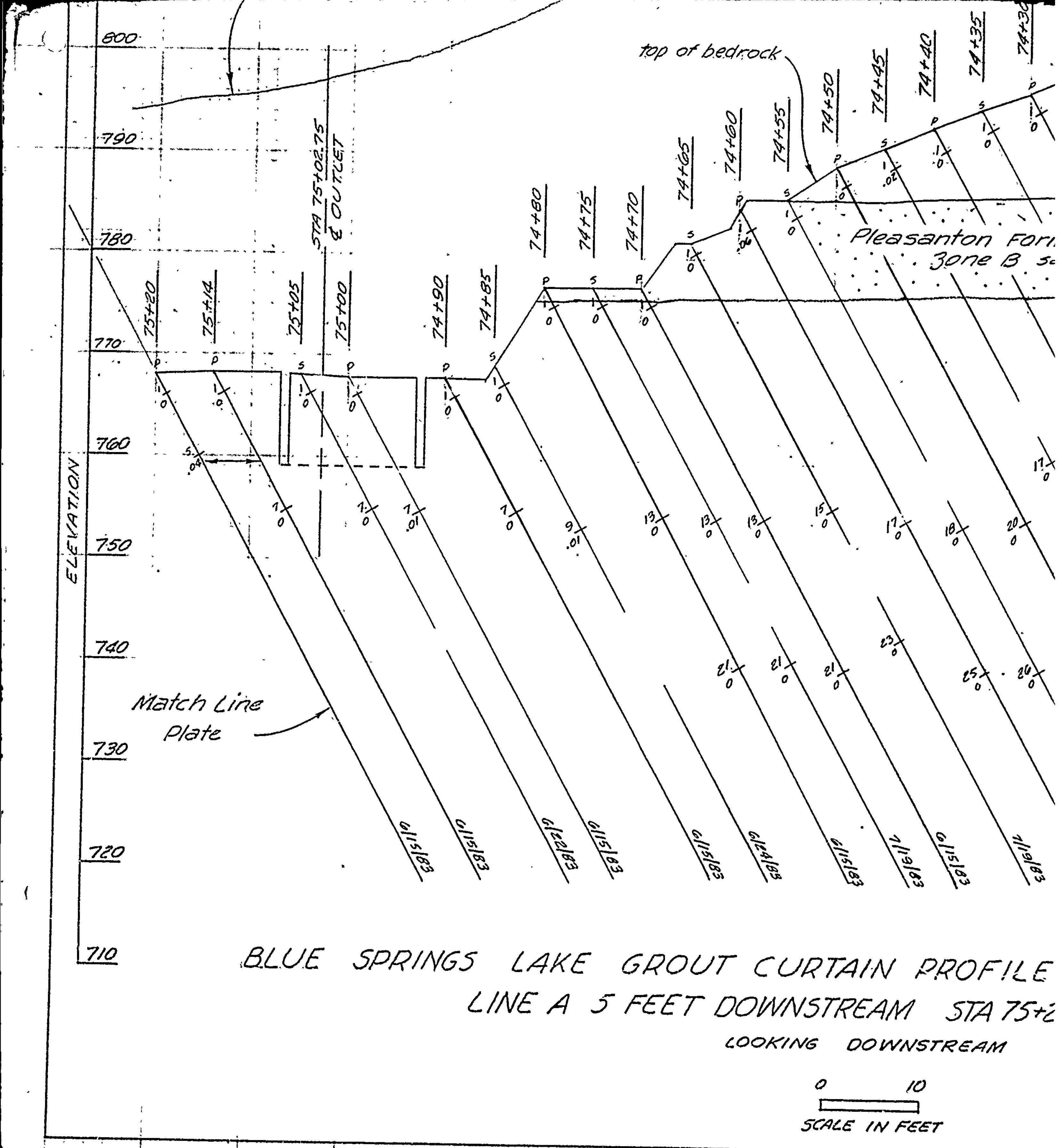
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

GROUT CURTAIN PROFILE
RIGHT ABUTMENT LINE A
STA. 75+20 TO STA. 74+00

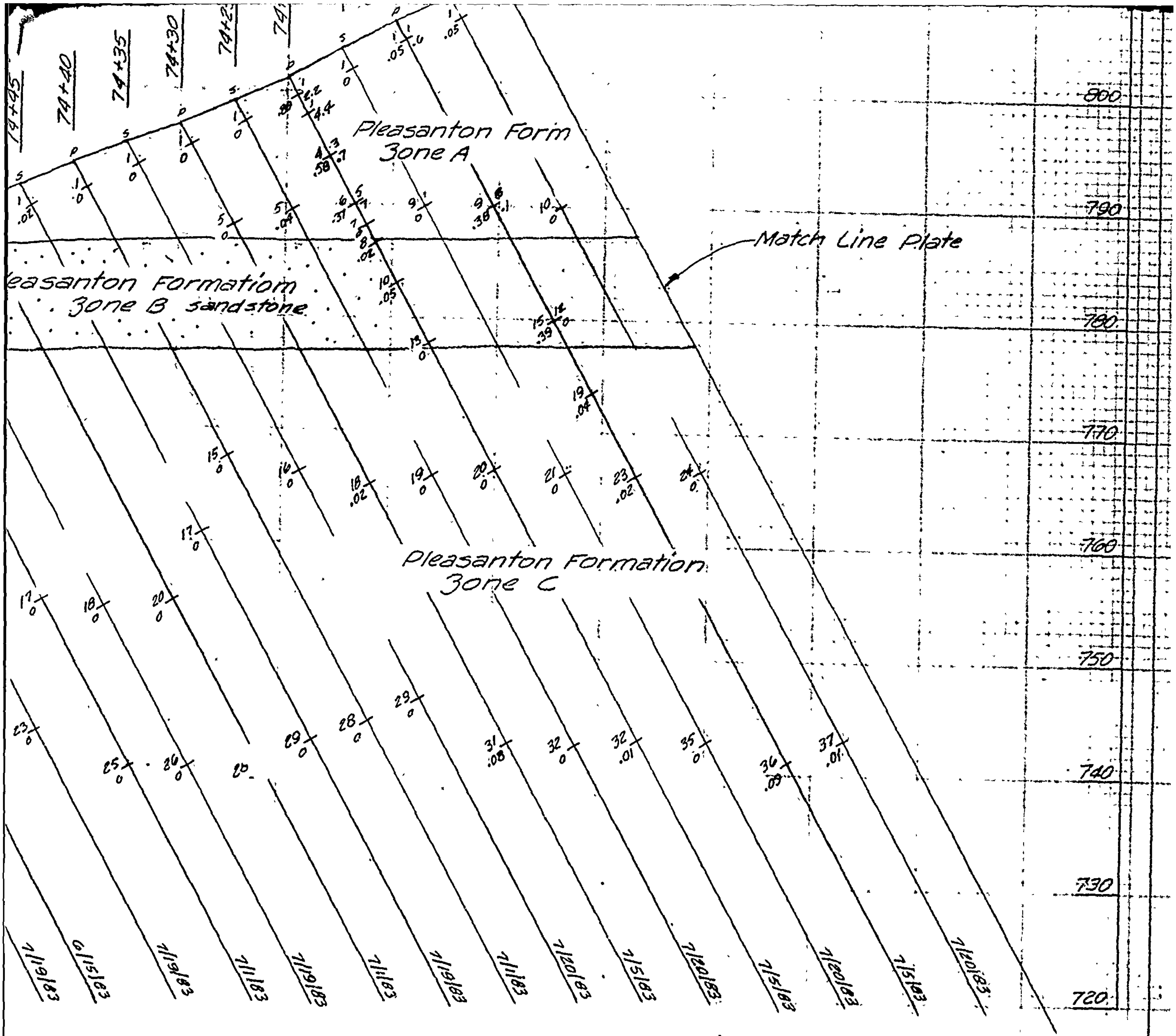
Designed by:

Drawn by: V.A.

Checked by: C.H.



ELEVATION
800
790
780
770
760
750
740
730
720
710
top of bedrock
STA 75+02.75 ℄ OUTLET
75+20
75+14
75+05
75+00
74+90
74+85
74+80
74+75
74+70
74+65
74+60
74+55
74+50
74+45
74+40
74+35
Pleasanton Form
Zone B
Match Line Plate
6/15/83
6/15/83
6/22/83
6/15/83
6/15/83
6/24/83
6/15/83
7/19/83
6/15/83
7/19/83
BLUE SPRINGS LAKE GROUT CURTAIN PROFILE
LINE A 5 FEET DOWNSTREAM STA 75+2
LOOKING DOWNSTREAM
0 10
SCALE IN FEET



N PROFILE RIGHT ABUTMENT

AM STA 75+20 TO STA 74+00

WNSTREAM

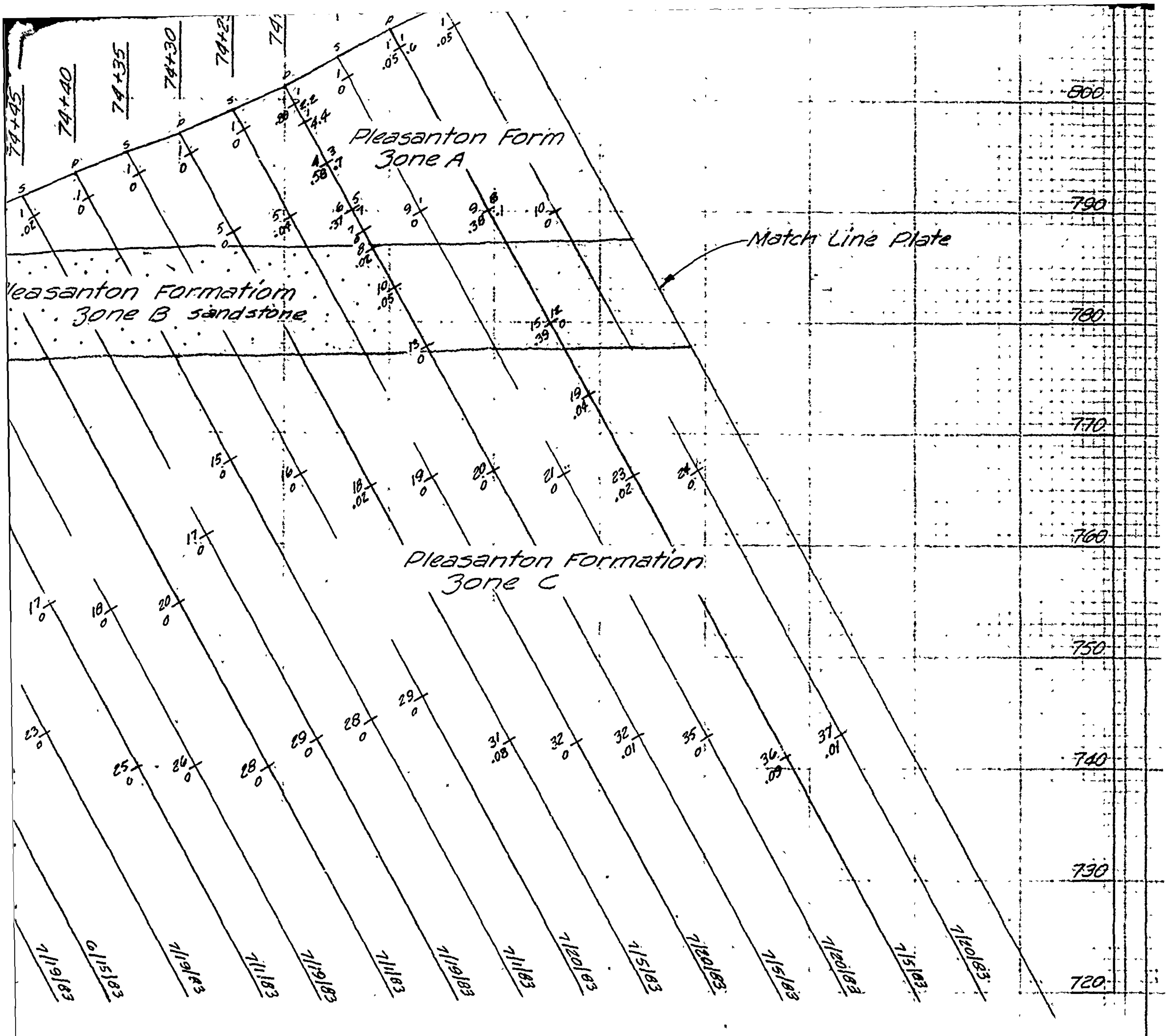
10

N FEET

for legend see Plate 44

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by: V.A.	GROUT CURTAIN PROFILE RIGHT ABUTMENT LINE A STA. 75+20 TO STA. 74+00
Checked by: C.H.	Scale: AS SHOWN
Submitted by:	Date: JUNE 1990 — Sheet number: 62
	Dwg. No.: — File No.: RBL-2-1282



N PROFILE RIGHT ABUTMENT
AM STA 75+20 TO STA 74+00
OWNSTREAM

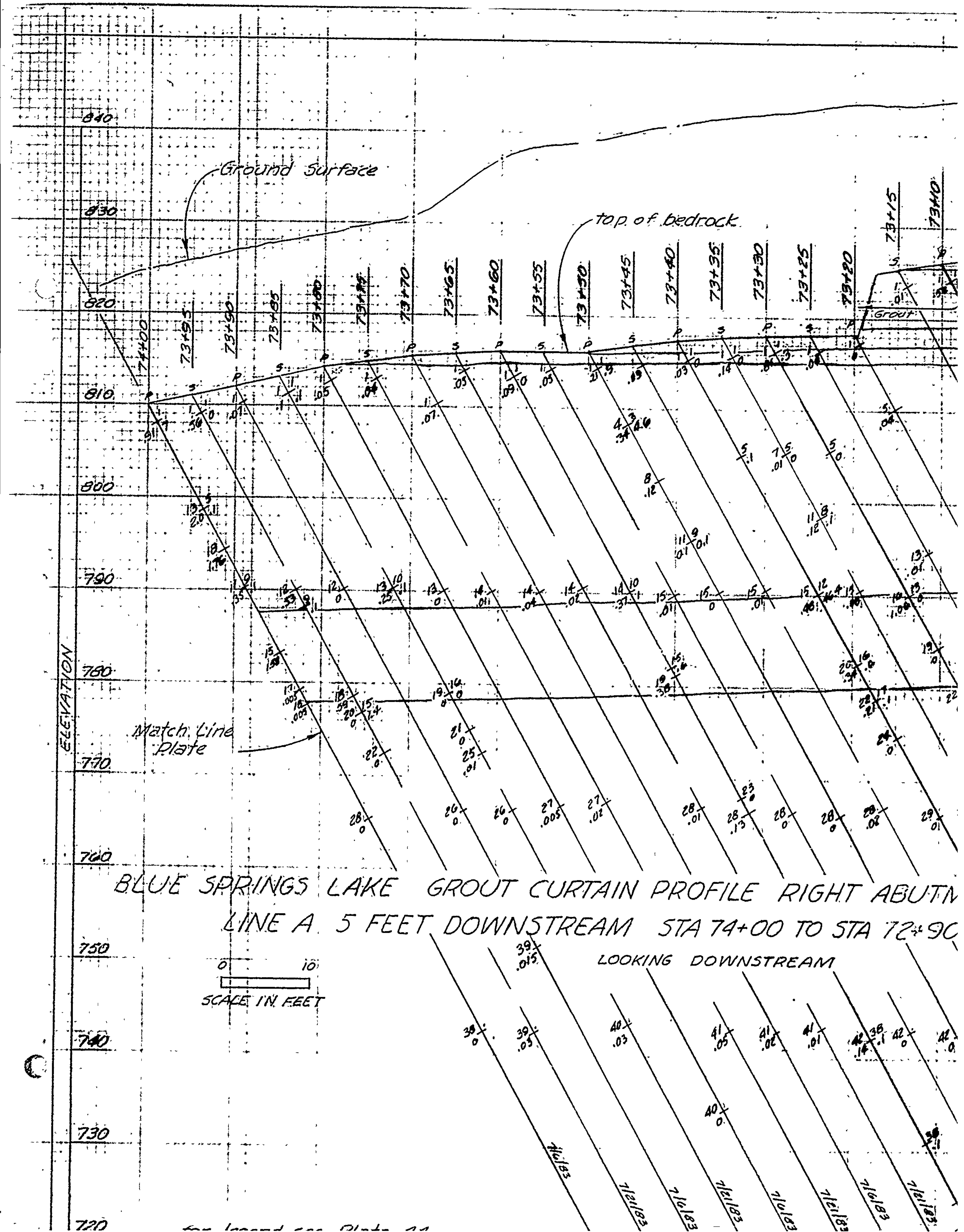
10
IN FEET

for legend see Plate 44

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

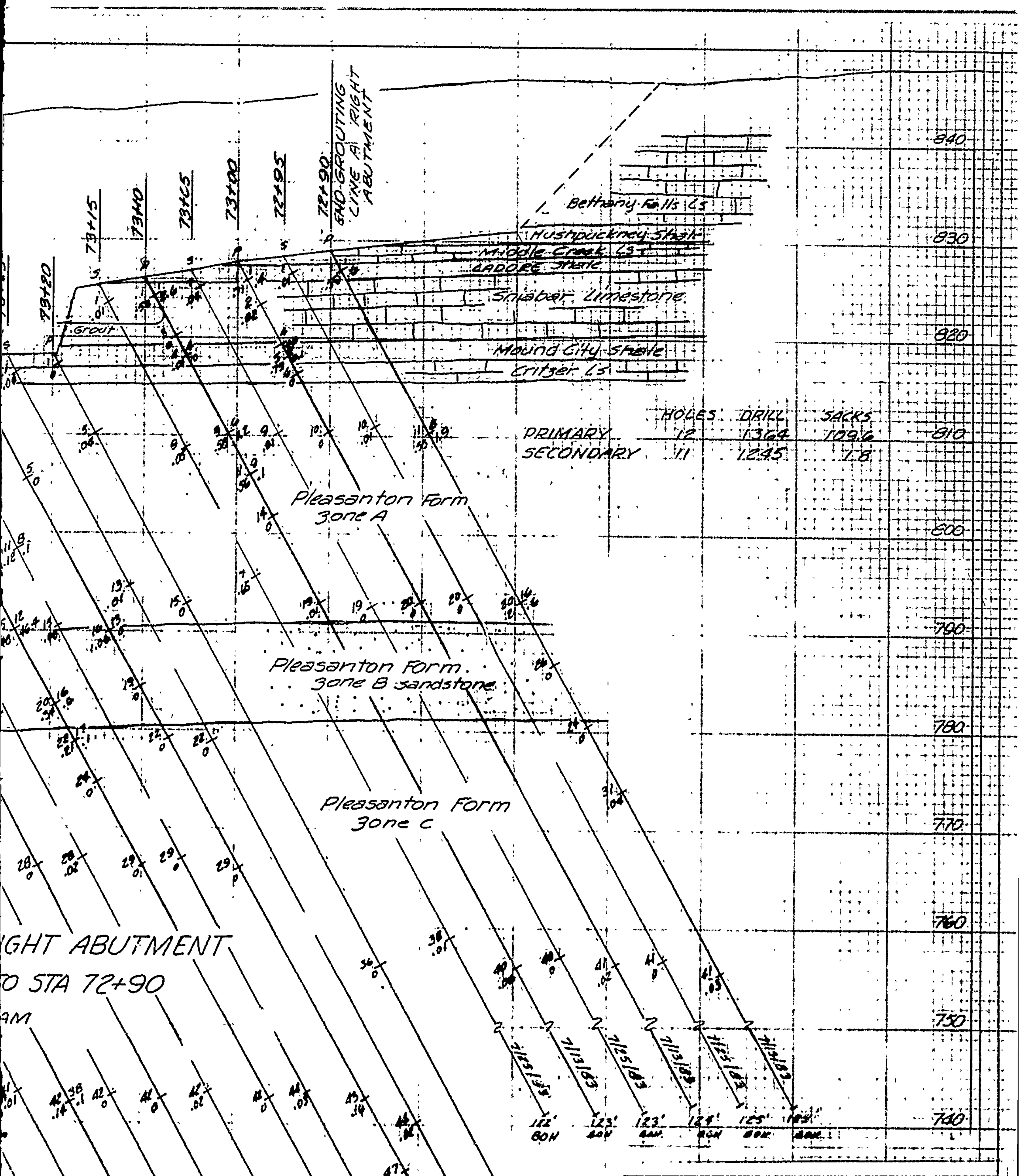
Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by: V.A.	GROUT CURTAIN PROFILE RIGHT ABUTMENT LINE A STA. 75+20 TO STA. 74+00
Checked by: C.H.	Scale: AS SHOWN — Sheet number:
Submitted by:	Date: JUNE 1990 — 62
	Dwg. No.: — File No.: RBL-2-1282

PLATE NO. 62



BLUE SPRINGS LAKE GROUT CURTAIN PROFILE RIGHT ABUTM

LINE A. 5 FEET DOWNSTREAM STA 74+00 TO STA 72+90

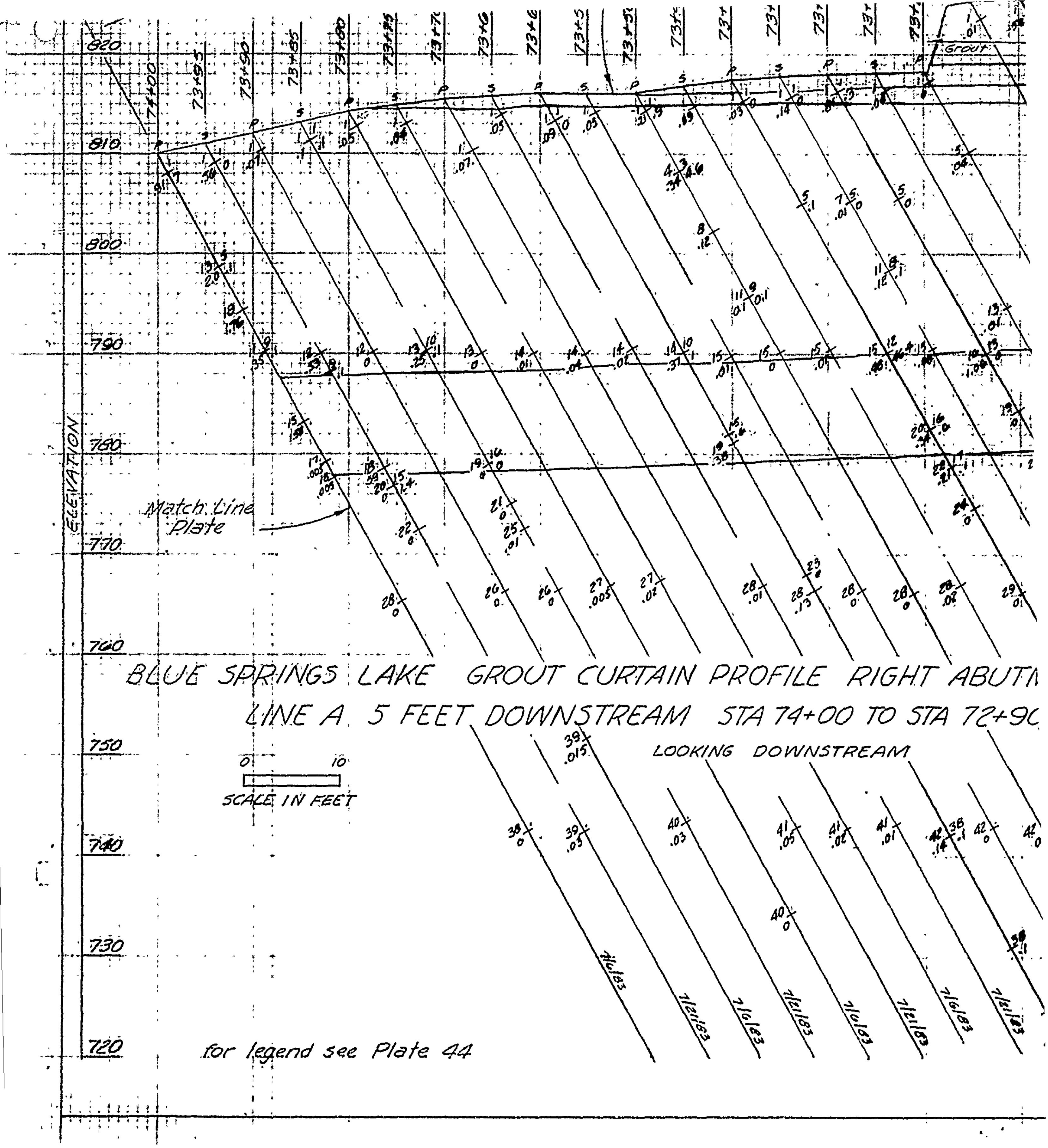


U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

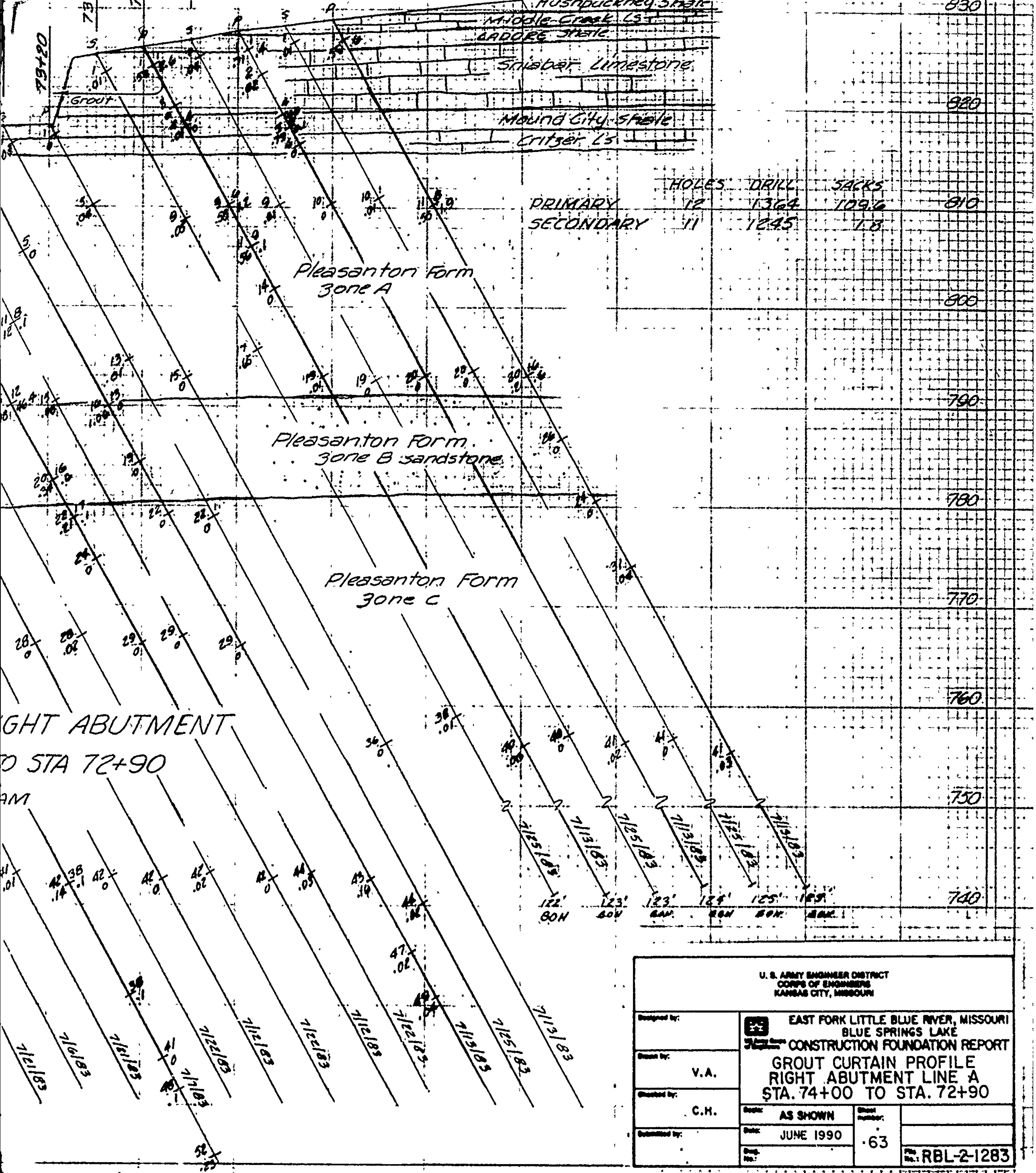
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

GROUT CURTAIN PROFILE
RIGHT ABUTMENT LINE A
STA. 74+00 TO STA. 72+90

Designed by:	
Drawn by:	V.A.
Checked by:	C.H.
Scale:	AS SHOWN
Sheet number:	



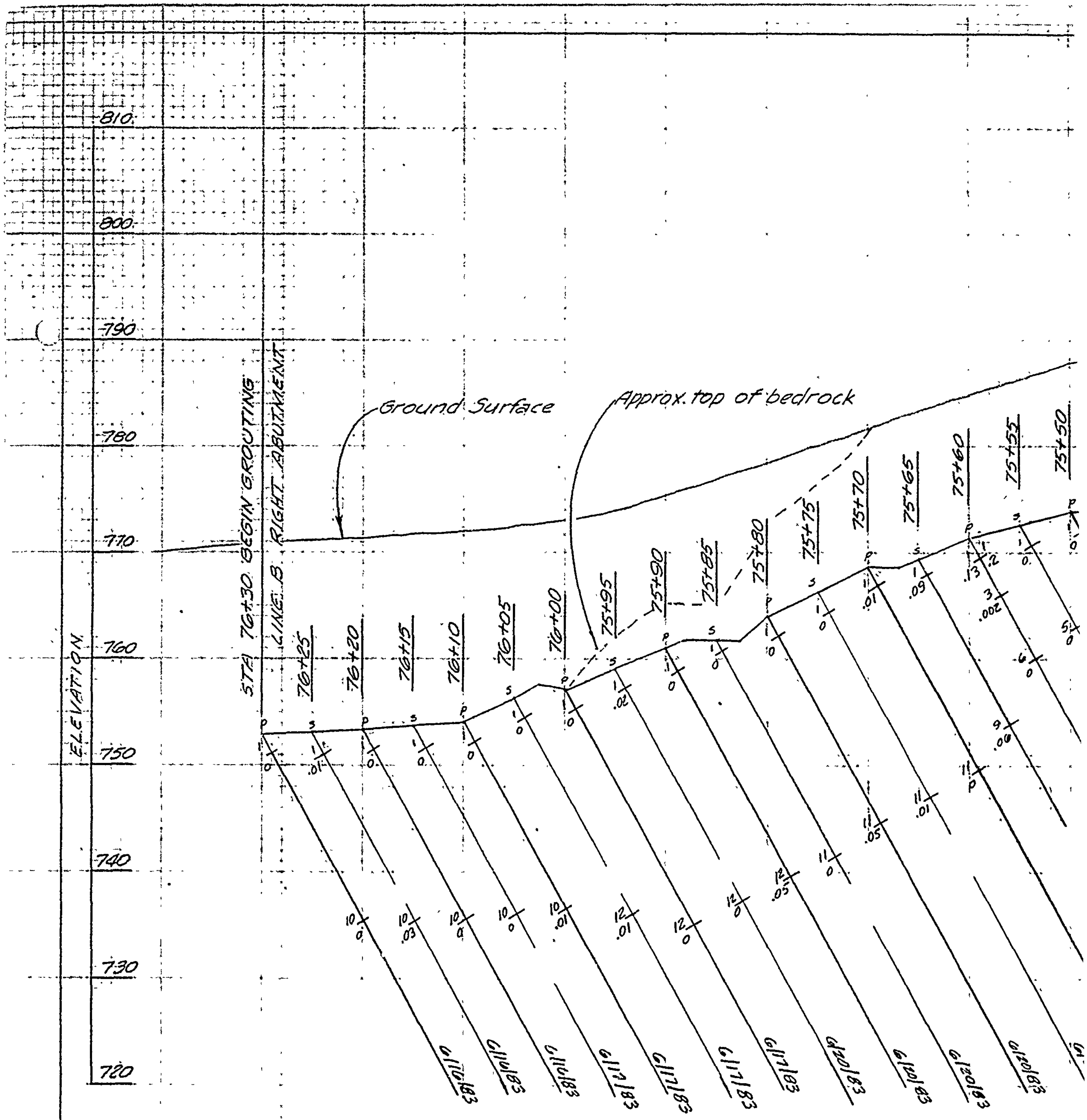
BLUE SPRINGS LAKE GROUT CURTAIN PROFILE RIGHT ABUTM
LINE A 5 FEET DOWNSTREAM STA 74+00 TO STA 72+9C
LOOKING DOWNSTREAM
0 10
SCALE IN FEET
for legend see Plate 44
Match Line Plate
ELEVATION
Grout
74+00
73+95
73+90
73+85
73+80
820
810
800
790
780
770
760
750
740
730
720



U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by: V.A.	GROUT CURTAIN PROFILE RIGHT ABUTMENT LINE A STA. 74+00 TO STA. 72+90
Checked by: C.H.	Scale: AS SHOWN · Sheet number: 63
Submitted by:	Date: JUNE 1990 · File No.: RBL-2-1283

PLATE NO. 63



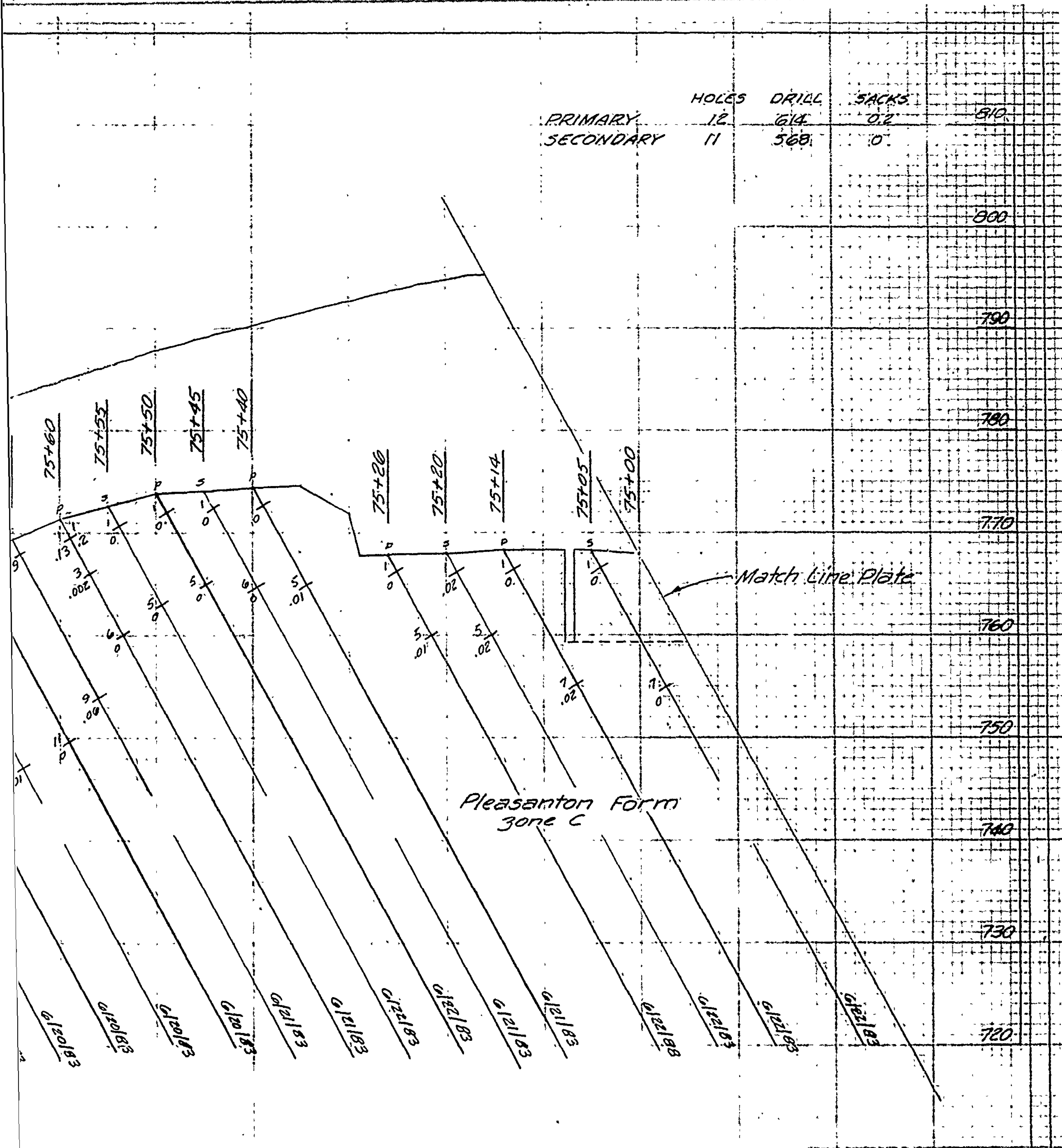
BLUE SPRINGS LAKE GROUT CURTAIN PRO

LINE B 5 FEET UPSTREAM STA

LOOKING DOWNSTREAM

0 10

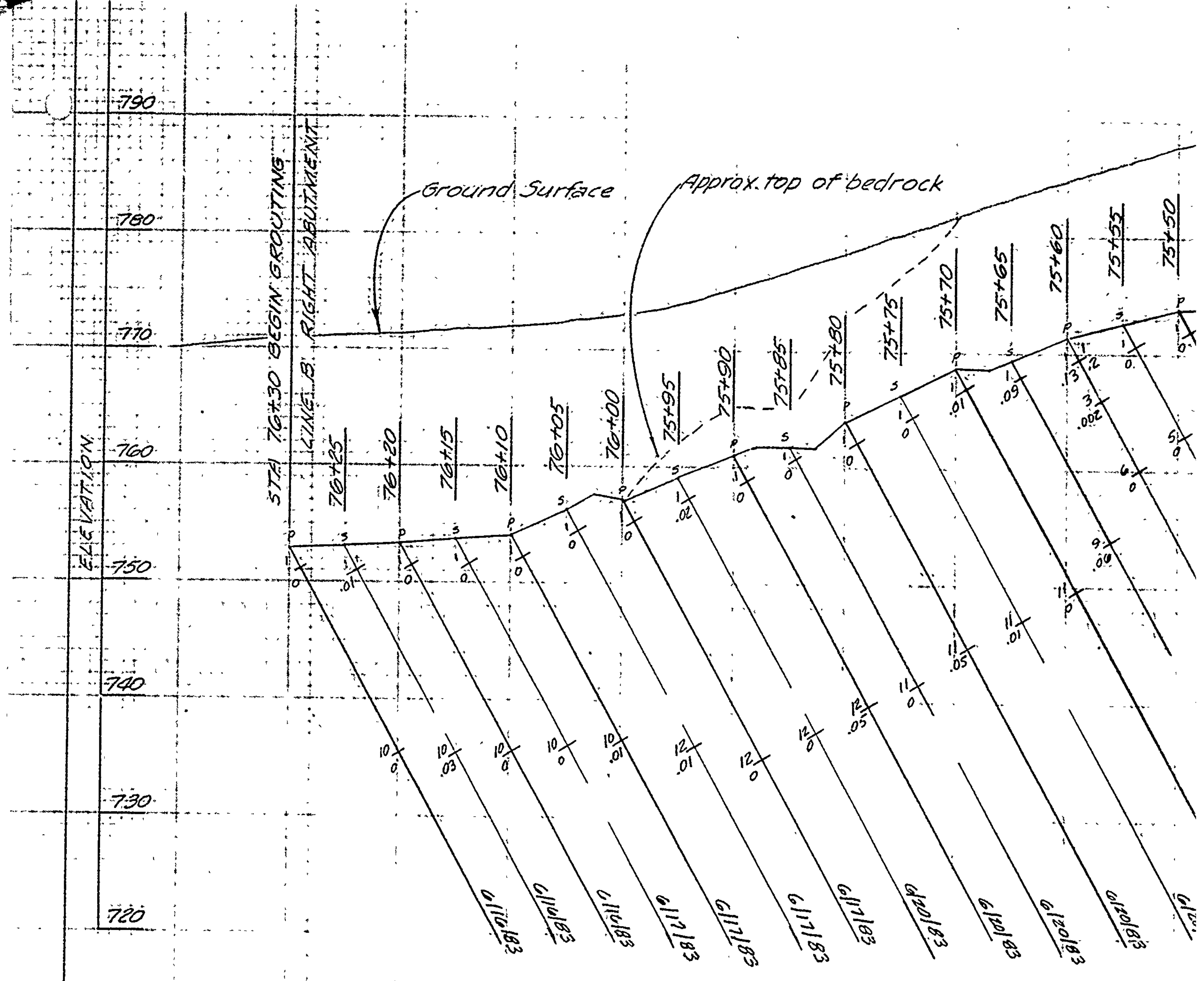
SCALE IN FEET



RTAIN PROFILE RIGHT ABUTMENT
AM STA 76+30 TO STA 75+00

for legend see Plate 44

	U. S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS KANSAS CITY, MISSOURI
Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by: V.A.	GROUT CURTAIN PROFILE RIGHT ABUTMENT LINE B STA. 76+30 TO STA. 75+00
Checked by: C.H.	Scale: AS SHOWN — Sheet Number:
Submitted by:	Date: JUNE 1990 — 64

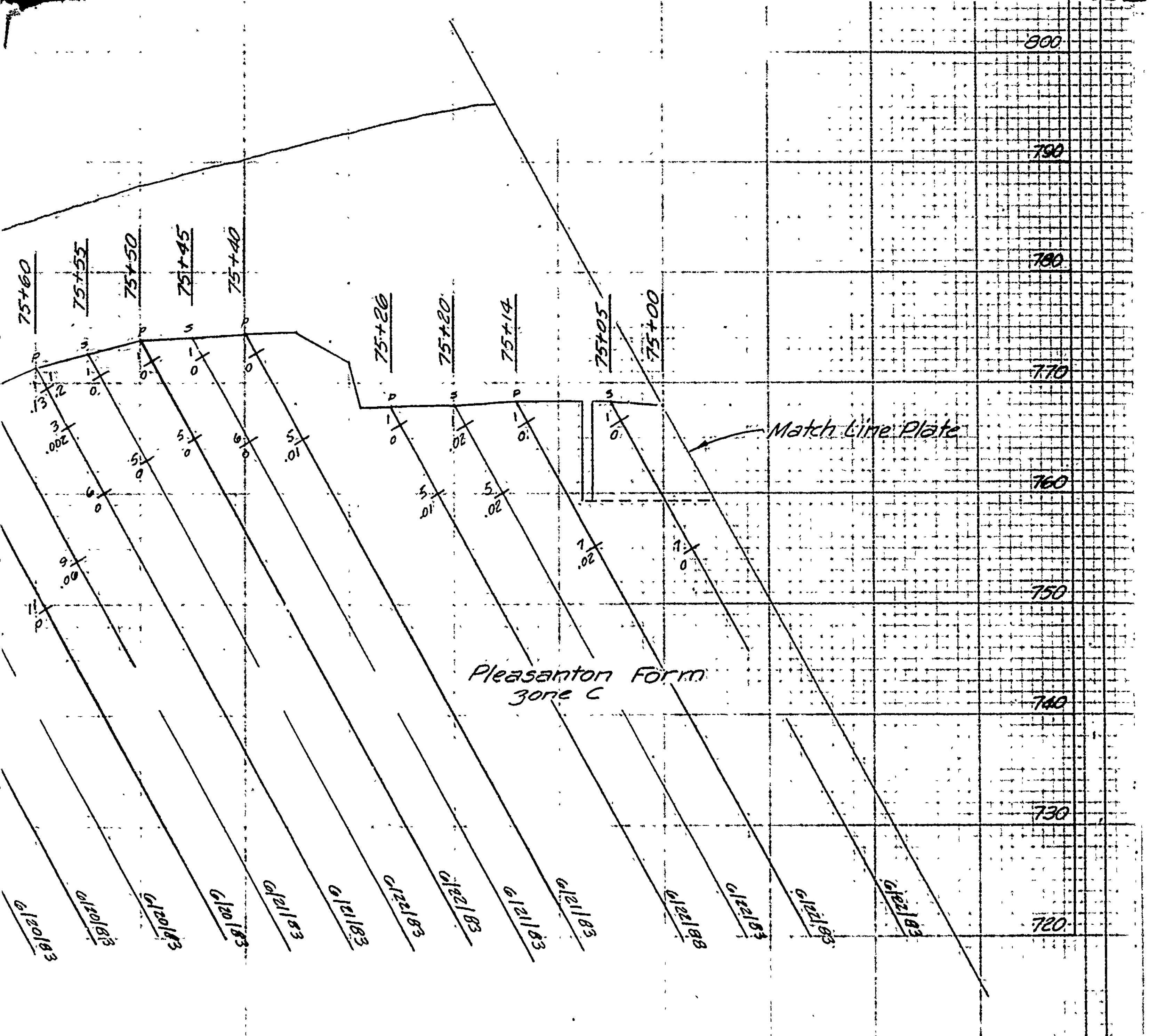


BLUE SPRINGS LAKE GROUT CURTAIN PRO
LINE B 5 FEET UPSTREAM STA

LOOKING DOWNSTREAM

0 10
SCALE IN FEET

fo



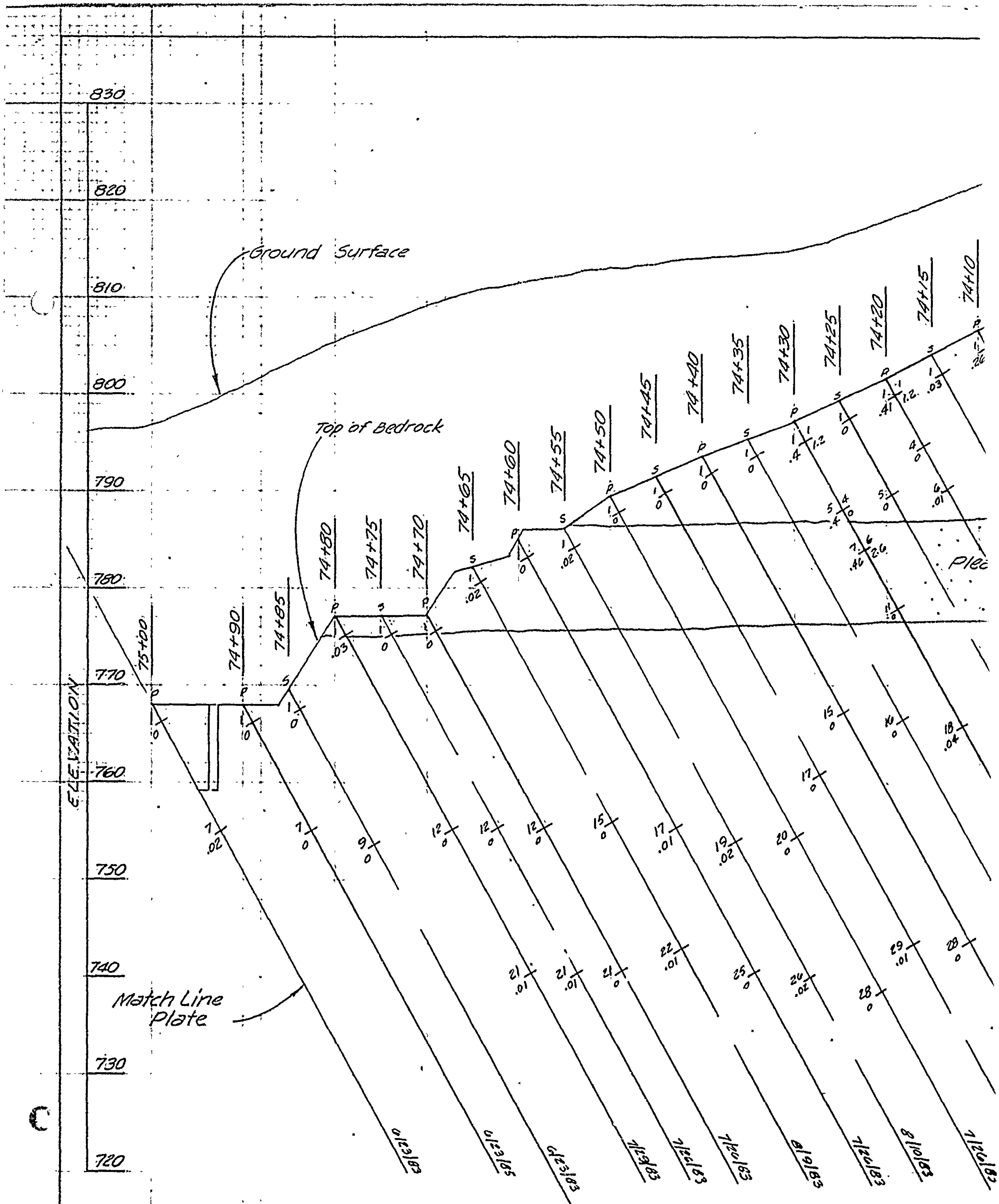
...RTAIN PROFILE RIGHT ABUTMENT

...AM STA 76+30 TO STA 75+00

for legend see Plate 44

U. S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS KANSAS CITY, MISSOURI			
Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT		
Drawn by: V.A.	GROUT CURTAIN PROFILE RIGHT ABUTMENT LINE B. STA. 76+30 TO STA. 75+00		
Checked by: C.H.	Scale: AS SHOWN	Sheet number: 64	
Submitted by:	Date: JUNE 1990		
	Dwg. No.:		File No.: RBL-2-1284

PLATE NO. 64

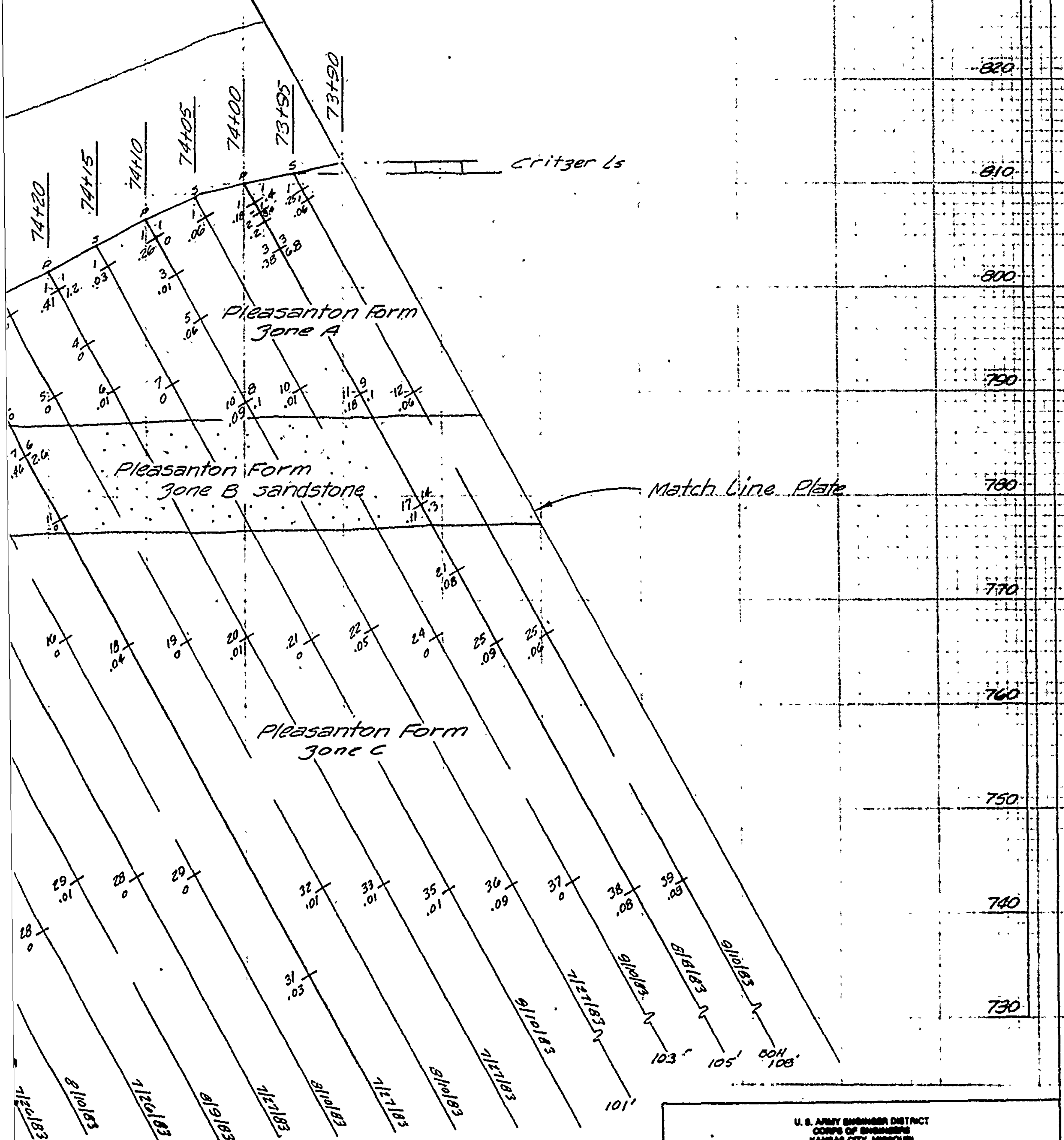


BLUE SPRINGS LAKE GROUT CURTAIN PROFILE R

LINE B 5 FEET UPSTREAM STA 75+00

LOOKING DOWNSTREAM

	HOLES	DRILL	SACKS
PRIMARY	11	879	16.1
SECONDARY	10	849	0



PROFILE RIGHT ABUTMENT
STA 75+00 TO STA 73+90

0 10
SCALE IN FEET

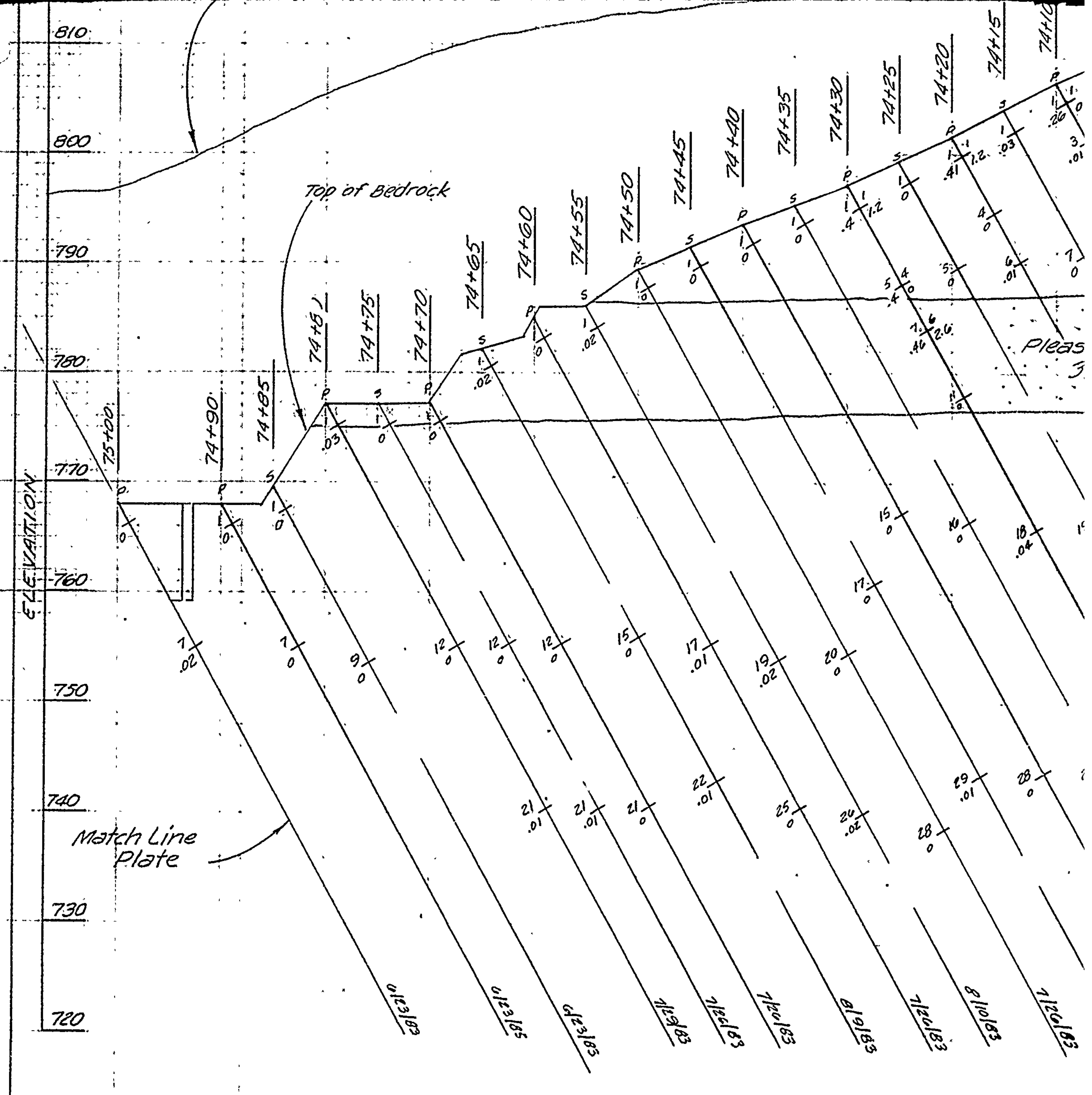
for legend see Plate 44

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

GROUT CURTAIN PROFILE
RIGHT ABUTMENT LINE B
STA. 75+00 TO STA. 73+90

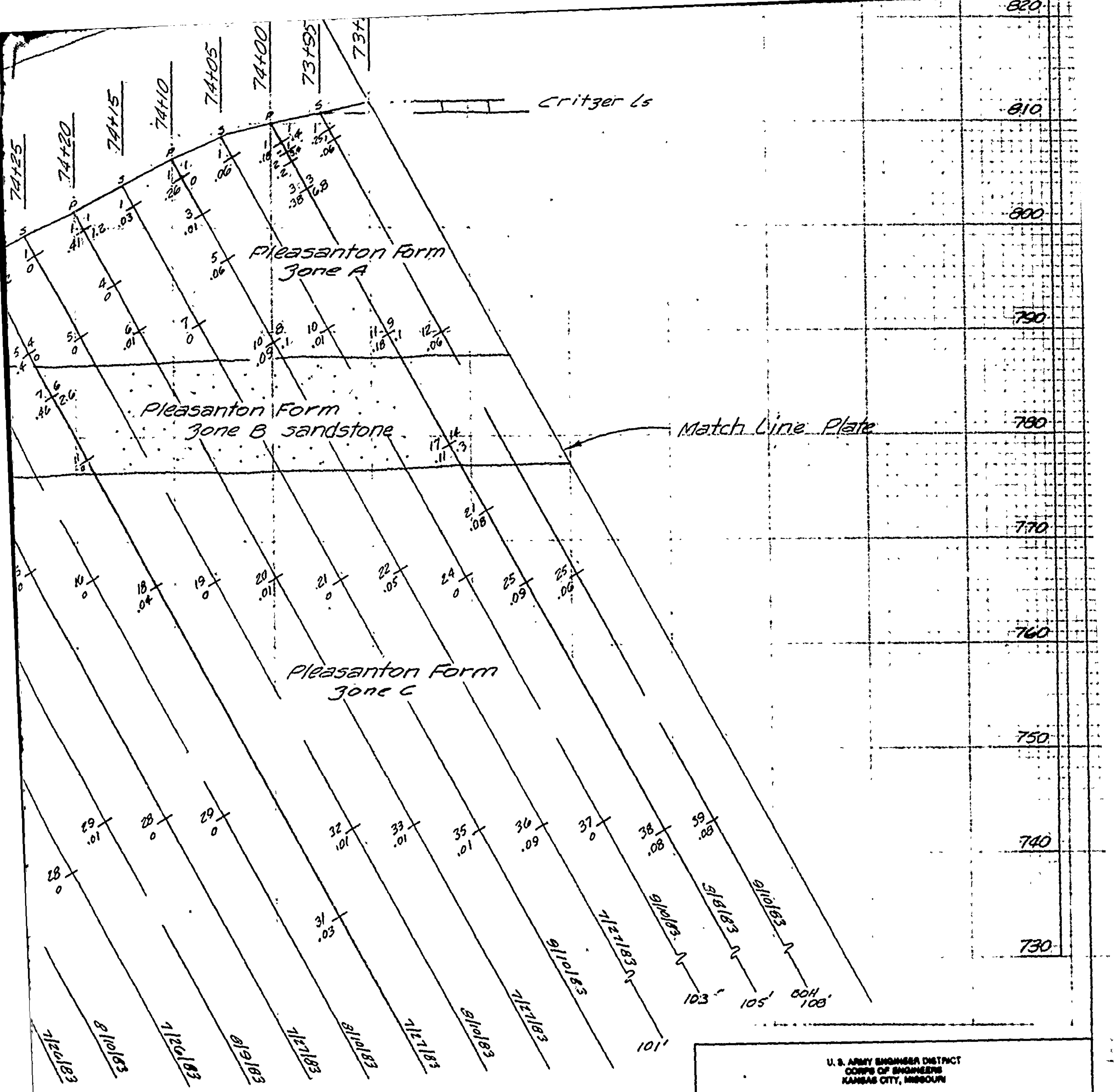
Designed by:	
Drawn by:	V.A.
Checked by:	C.H.
Submitted by:	
Scale:	AS SHOWN
Date:	JUNE 1990
Sheet Number:	65



BLUE SPRINGS LAKE GROUT CURTAIN PROFILE R
LINE B 5 FEET UPSTREAM STA 75+00 T

LOOKING DOWNSTREAM

0 10
SCALE IN FEET



PROFILE RIGHT ABUTMENT
STA 75+00 TO STA 73+90

0 10
SCALE IN FEET

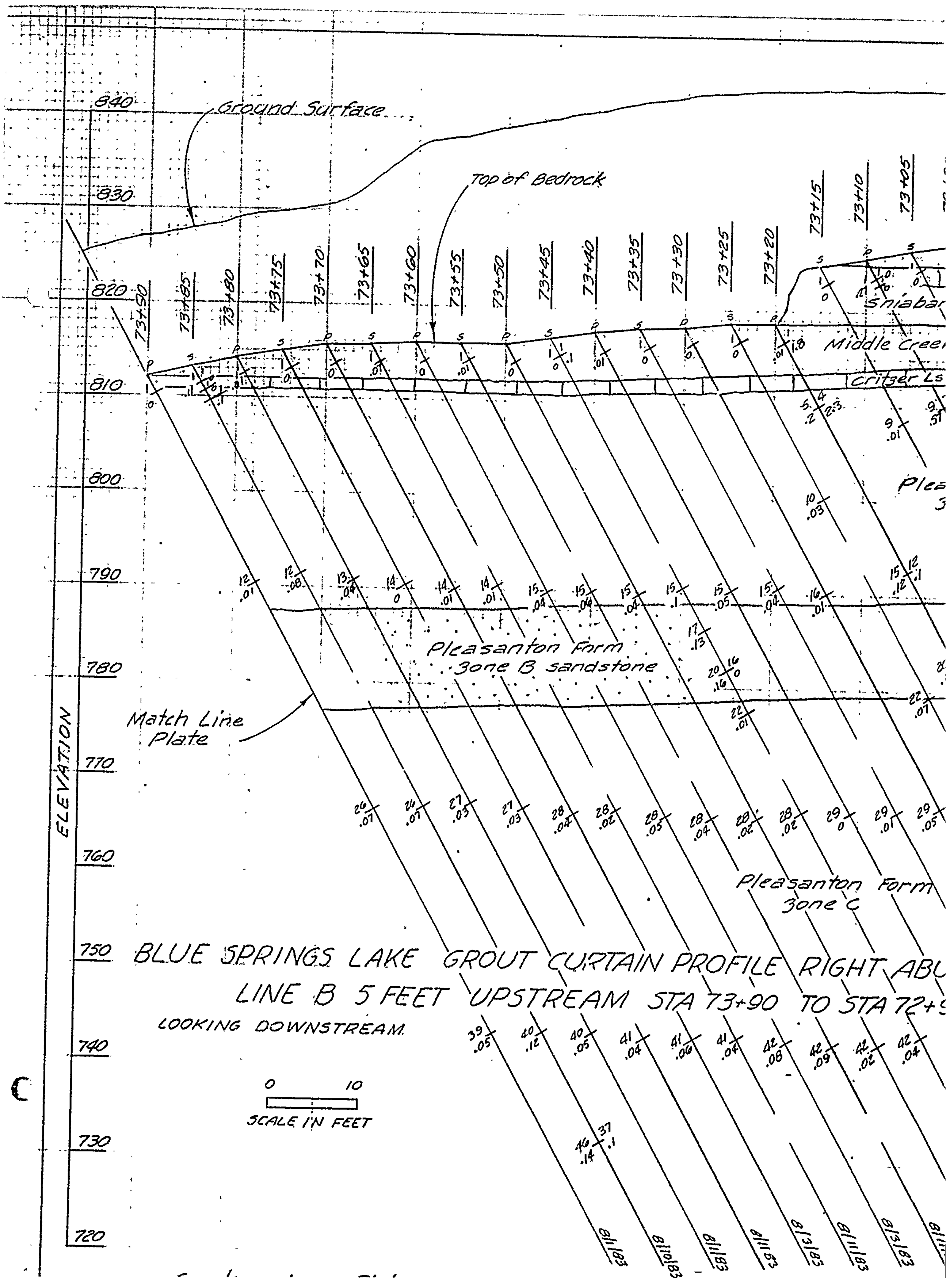
for legend see Plate 44

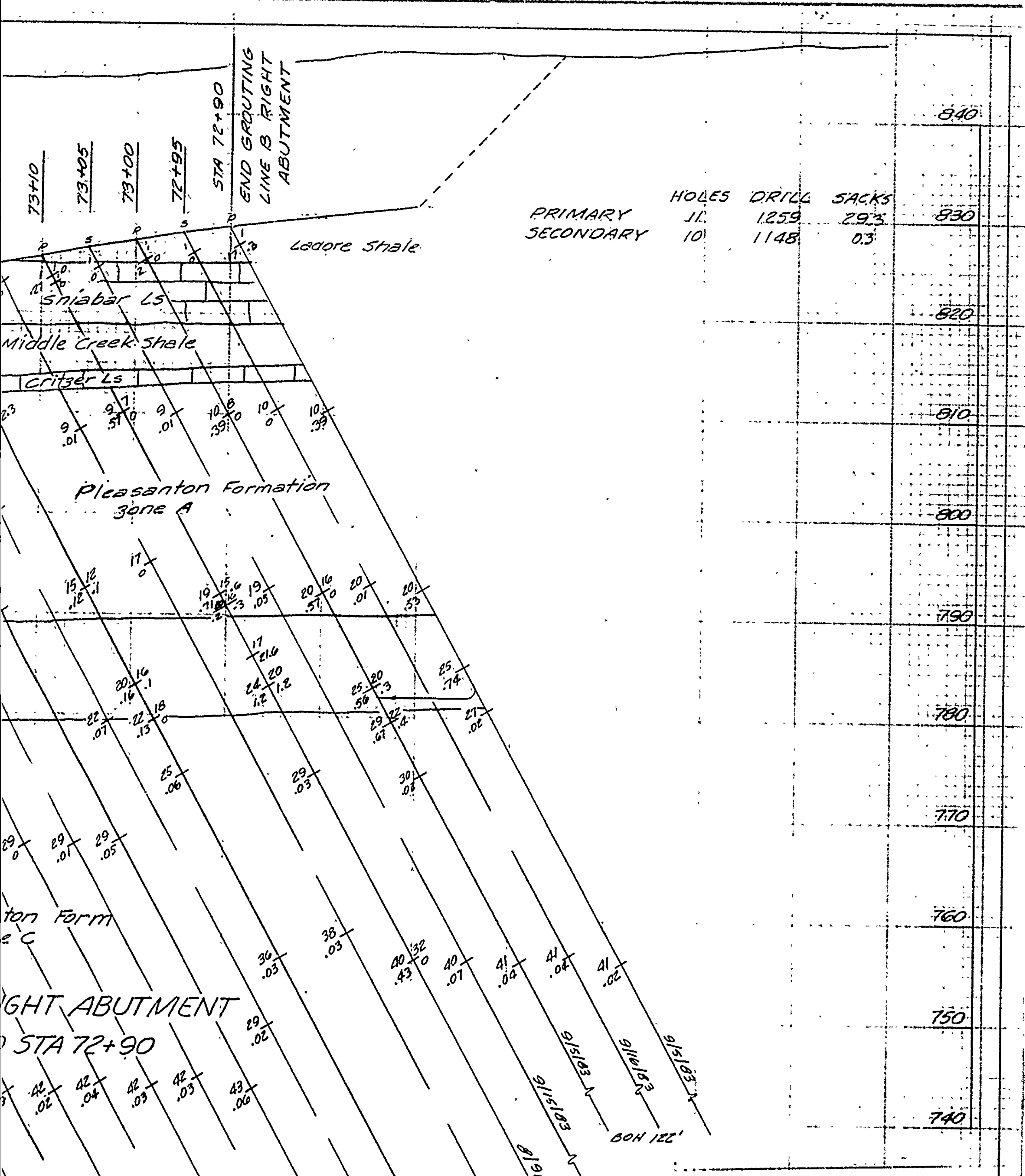
U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

GROUT CURTAIN PROFILE
RIGHT ABUTMENT LINE B
STA. 75+00 TO STA. 73+90

Designed by:	
Drawn by:	V.A.
Checked by:	C.H.
Submitted by:	
Scale:	AS SHOWN
Date:	JUNE 1990
Sheet number:	65
File No.:	RBL-2-1285


BLUE SPRINGS LAKE GROUT CURTAIN PROFILE RIGHT ABU
LINE B 5 FEET UPSTREAM STA 73+90 TO STA 72+
LOOKING DOWNSTREAM
ELEVATION
840
830
820
810
800
790
780
770
760
750
740
730
720
Ground Surface
Top of Bedrock
73+90
73+85
73+80
73+75
73+70
73+65
73+60
73+55
73+50
73+45
73+40
73+35
73+30
73+25
73+20
73+15
73+10
73+05
Sniabar
Middle Creek
Critzer Ls
Pleasanton Form
Zone B sandstone
Pleasanton Form
Zone C
Match Line
Plate
0
10
SCALE IN FEET
8/1/83
8/10/83
8/1/83
8/11/83
8/3/83
8/11/83
8/3/83



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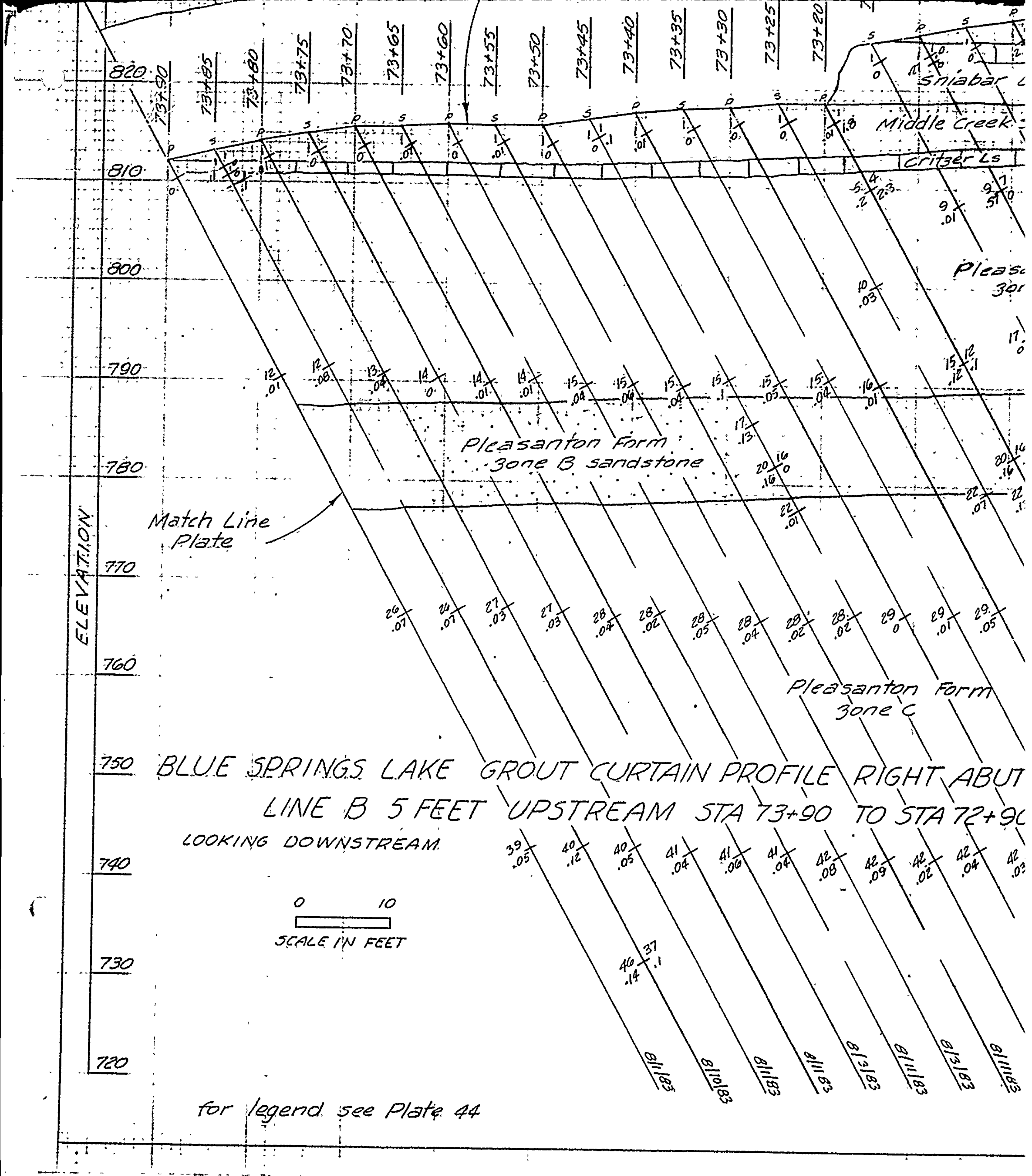
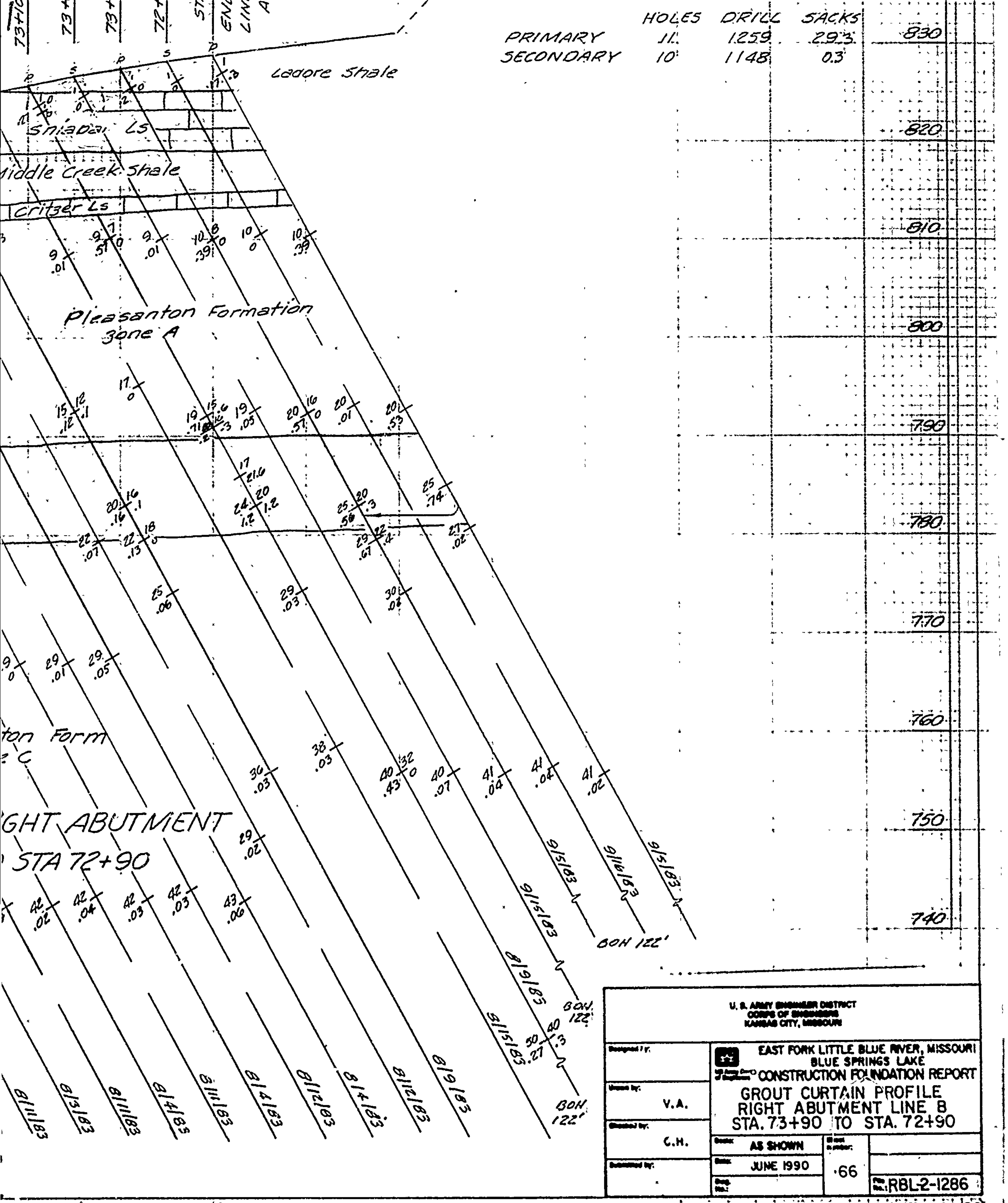
KANSAS CITY, MISSOURI

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

GROUT CURTAIN PROFILE
RIGHT ABUTMENT LINE B
STA. 73+90 TO STA. 72+90

Designed by:
Drawn by: V.A.
Checked by: C.H.
Scale: AS SHOWN
Sheet number:


BLUE SPRINGS LAKE GROUT CURTAIN PROFILE RIGHT ABUT
LINE B 5 FEET UPSTREAM STA 73+90 TO STA 72+90
LOOKING DOWNSTREAM
0 10
SCALE IN FEET
for legend see Plate 44
ELEVATION
820
810
800
790
780
770
760
750
740
730
720
73+90
73+85
73+80
73+75
73+70
73+65
73+60
73+55
73+50
73+45
73+40
73+35
73+30
73+25
73+20
Sniabar
Middle Creek
Critzer Ls
Pleasanton Form
3one B sandstone
Pleasanton Form
3one C
Match Line
Plate
8/11/83
8/10/83
8/11/83
8/11/83
8/13/83
8/11/83
8/13/83
8/11/83



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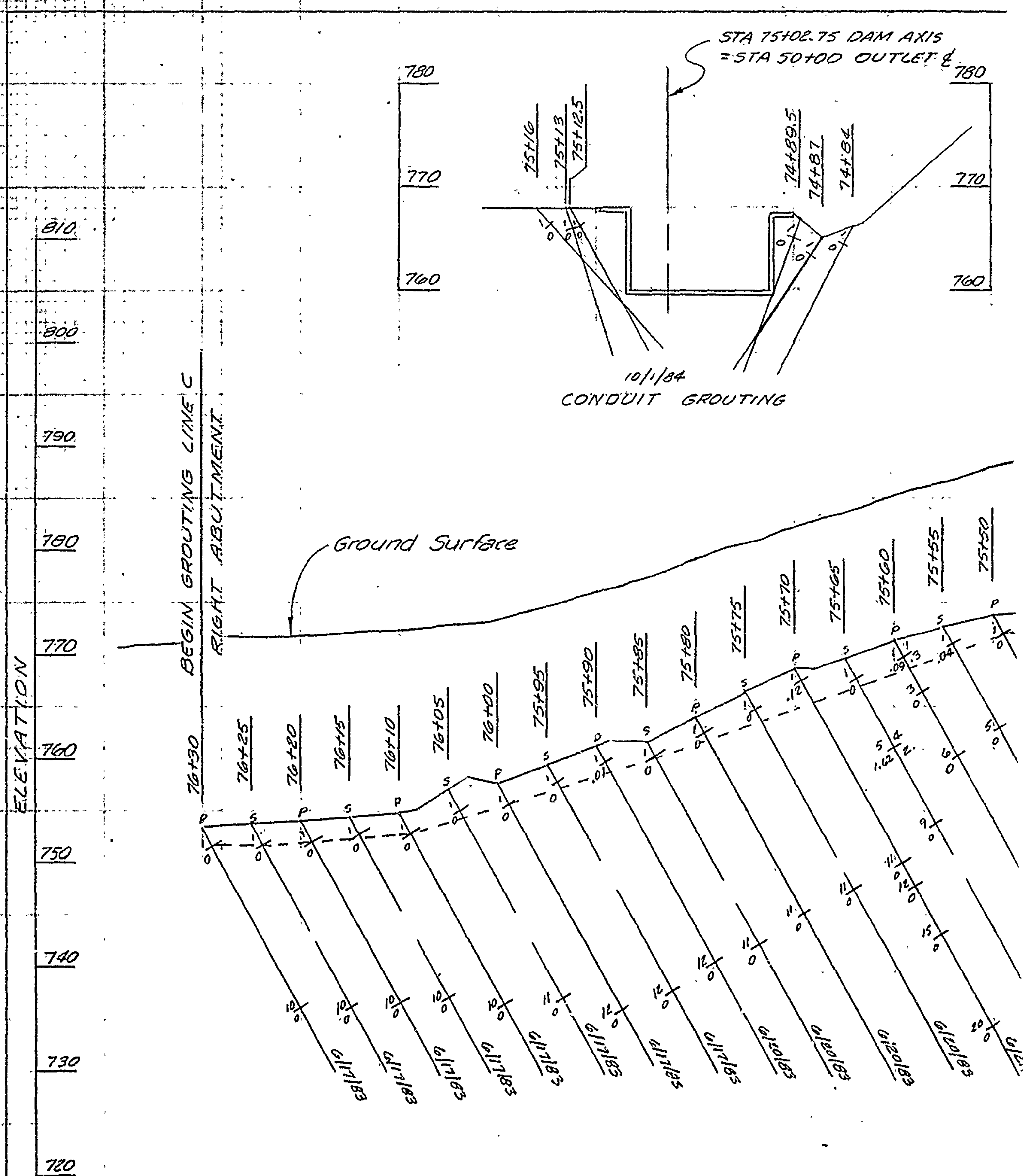
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

GROUT CURTAIN PROFILE
RIGHT ABUTMENT LINE B
STA. 73+90 TO STA. 72+90

Drawn by: V.A.
Checked by: C.H.
Scale: AS SHOWN
Date: JUNE 1990
Sheet number: 66
File No.: RBL-2-1286

PLATE NO. 66

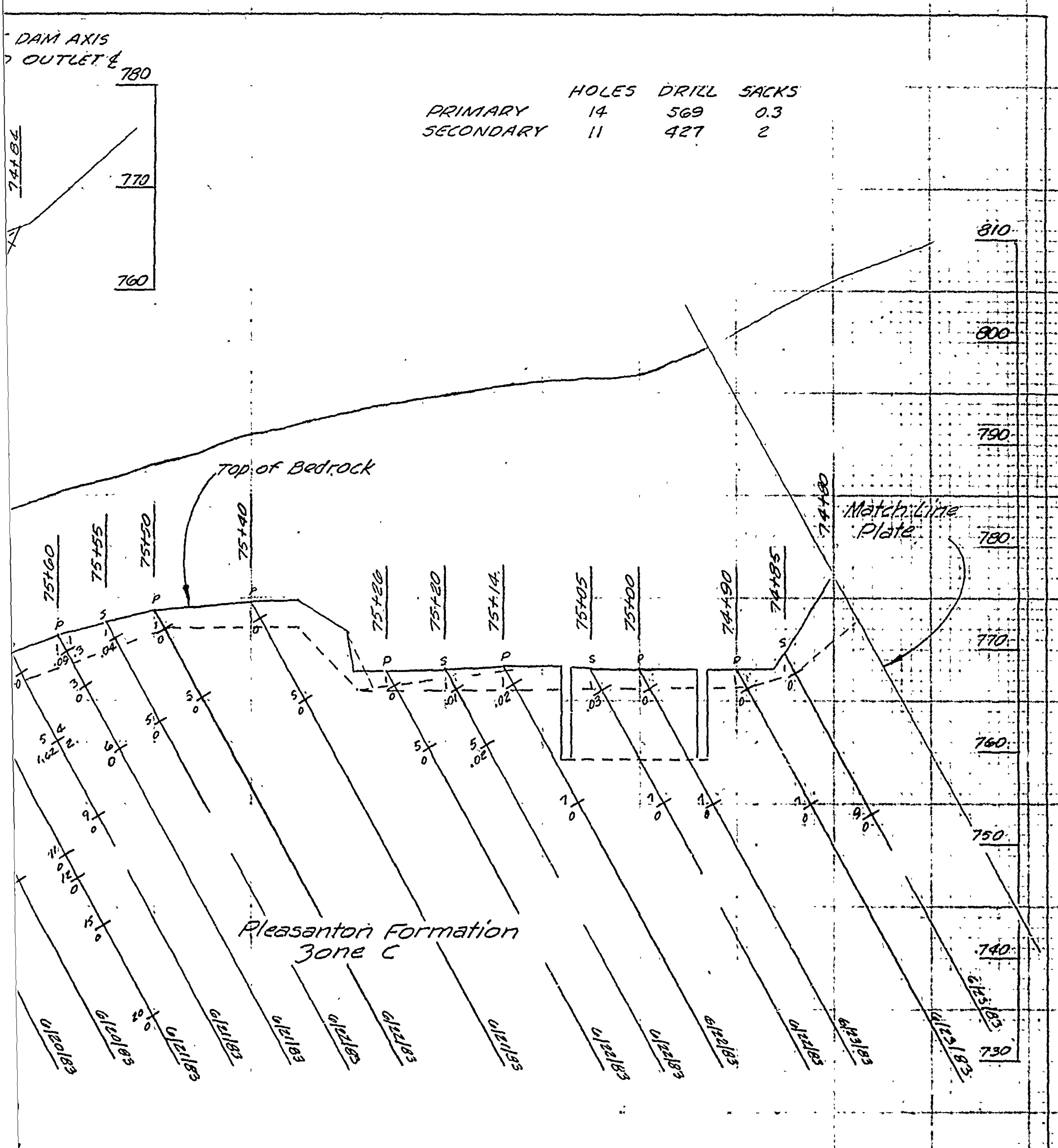


BLUE SPRINGS LAKE GROUT CURTAIN PROFILE

LINE C ON DAM AXIS STA 76+30

LOOKING DOWNSTREAM

	HOLES	DRILL	SACKS
PRIMARY	14	569	0.3
SECONDARY	11	427	2



N PROFILE RIGHT ABUTMENT
TA 76+30 TO STA 74+80

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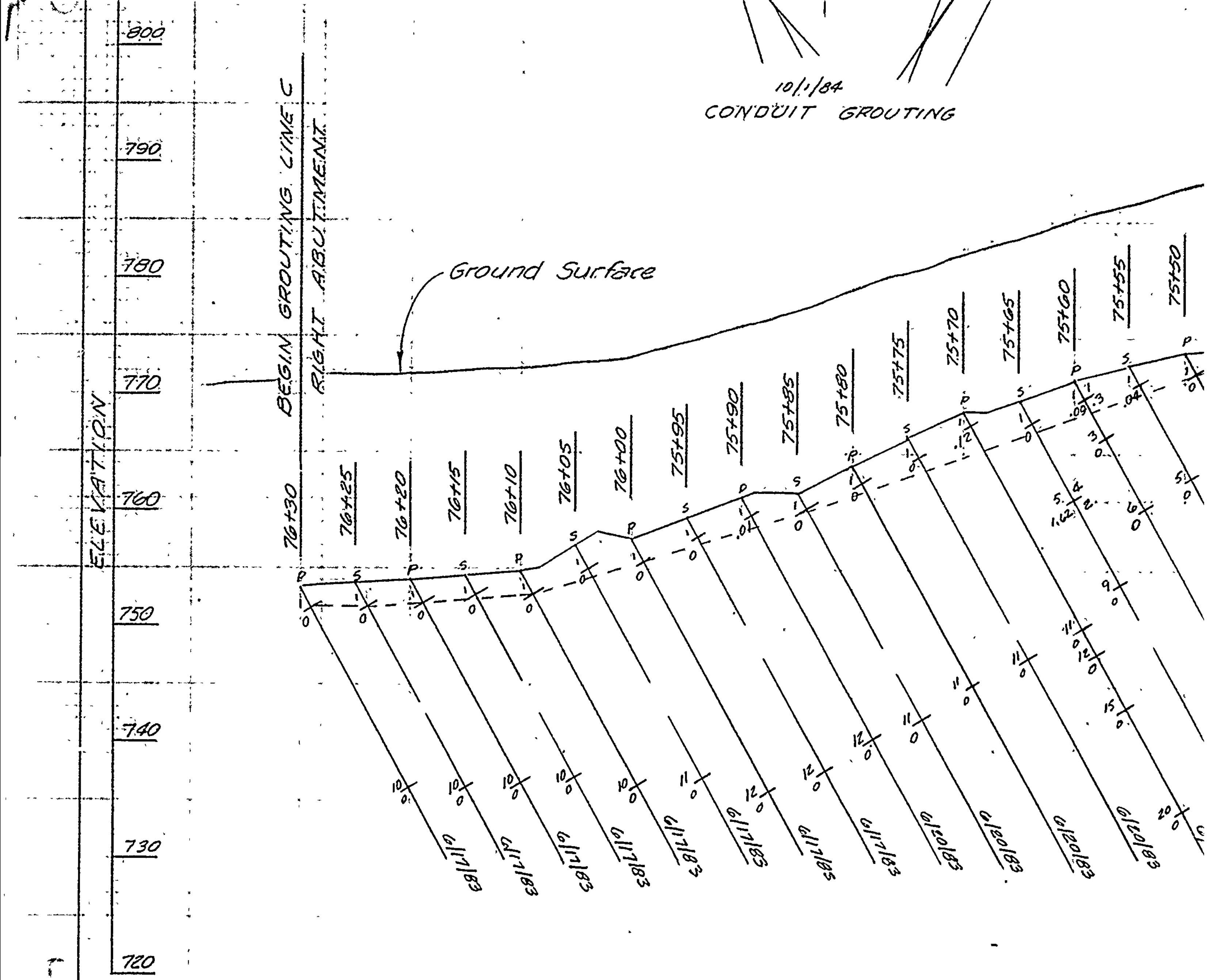
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

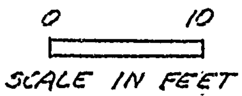
Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by: V.A.	GROUT CURTAIN PROFILE RIGHT ABUTMENT LINE C STA. 76+30 TO STA. 74+80
Checked by:	



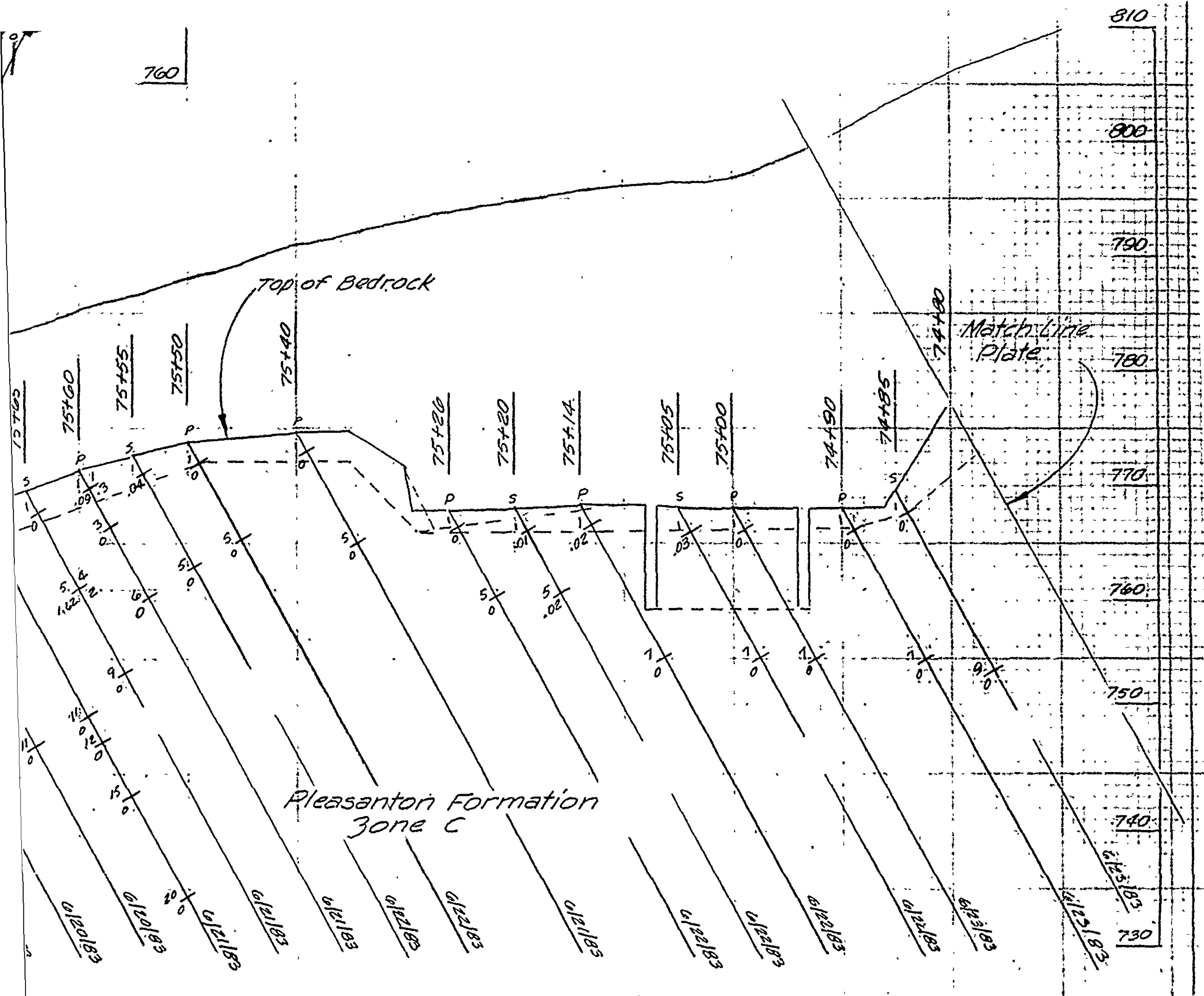
BLUE SPRINGS LAKE GROUT CURTAIN PROFIL

LINE C ON DAM AXIS STA 76+30

LOOKING DOWNSTREAM



for leg



N PROFILE RIGHT ABUTMENT
TA 76+30 TO STA 74+80
M

for legend see Plate 44

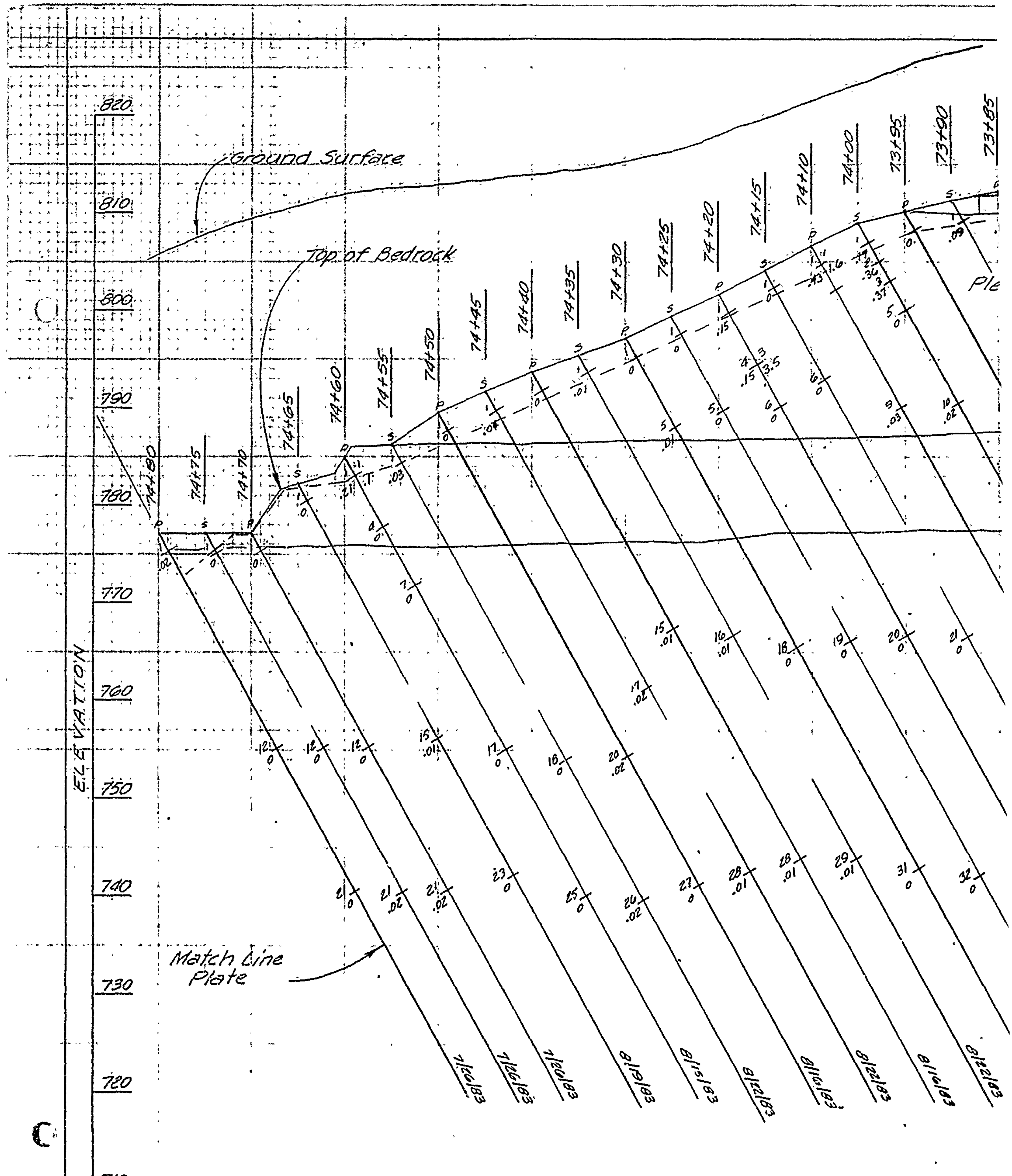
U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

GROUT CURTAIN PROFILE
RIGHT ABUTMENT LINE C
STA. 76+30 TO STA. 74+80

Designed by:	
Drawn by:	V.A.
Checked by:	C.H.
Submitted by:	
Scale:	AS SHOWN
Date:	JUNE 1990
Sheet number:	67
Dwg. No.:	
File No.:	RBL-2-1287

PLATE NO. 67

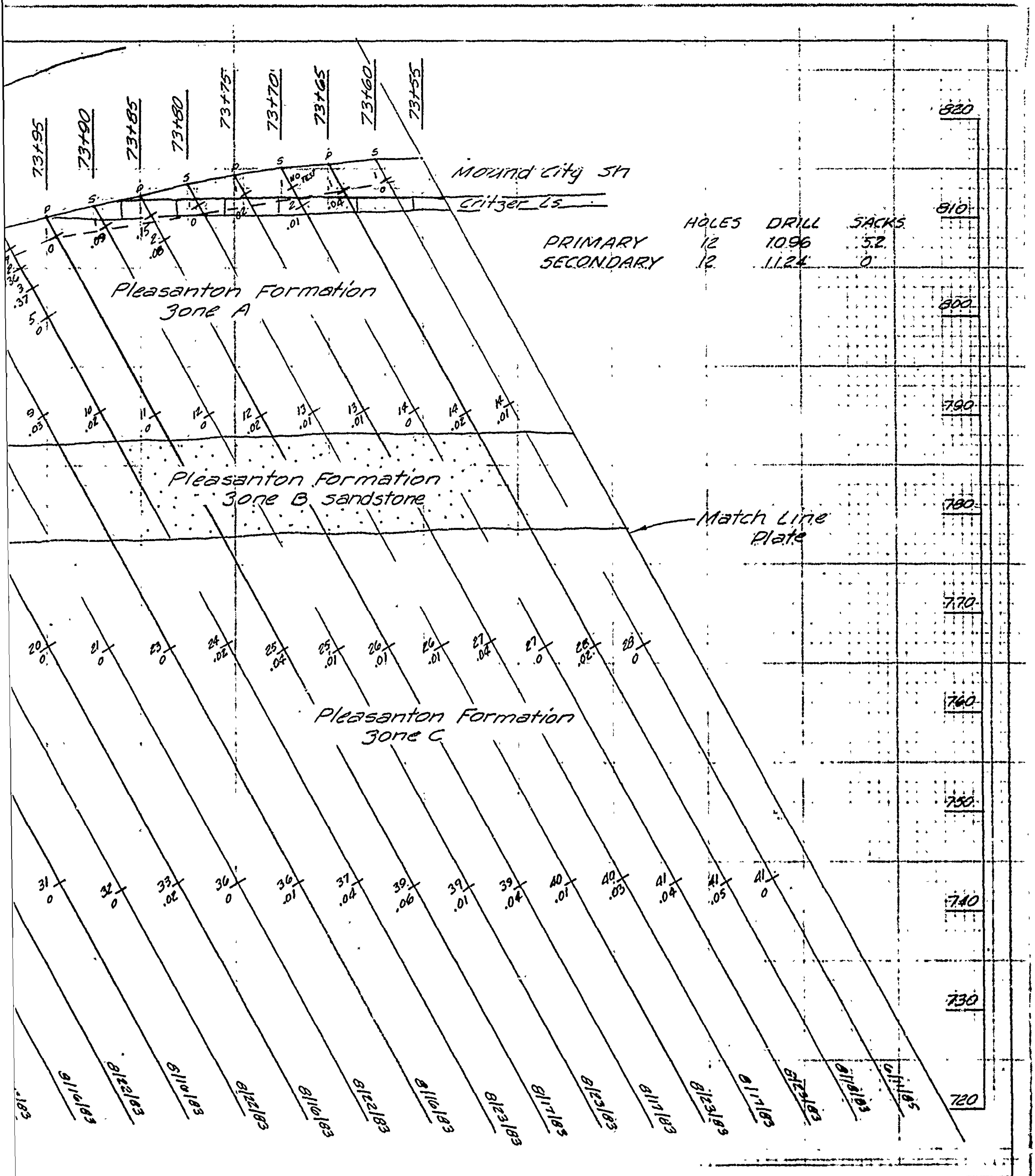


BLUE SPRINGS LAKE GROUT CURTAIN PROFIL

LINE C ON DAM AXIS STA 74+80

LOOKING DOWNSTREAM

0 10



/ PROFILE RIGHT ABUTMENT

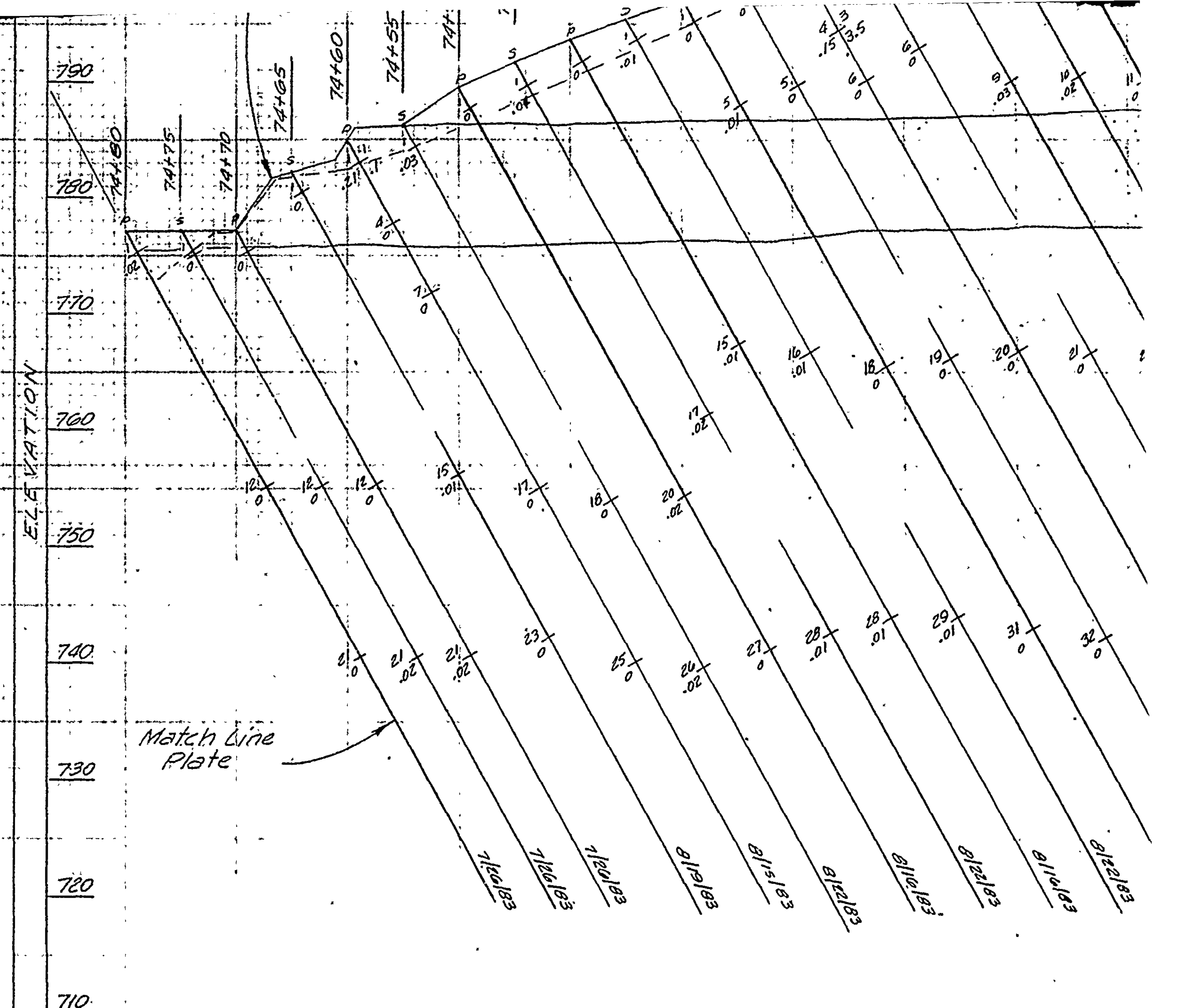
'A 74+80 TO STA 73+55

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:

Drawn by:

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT
GROUT CURTAIN PROFILE



BLUE SPRINGS LAKE GROUT CURTAIN PROFIL

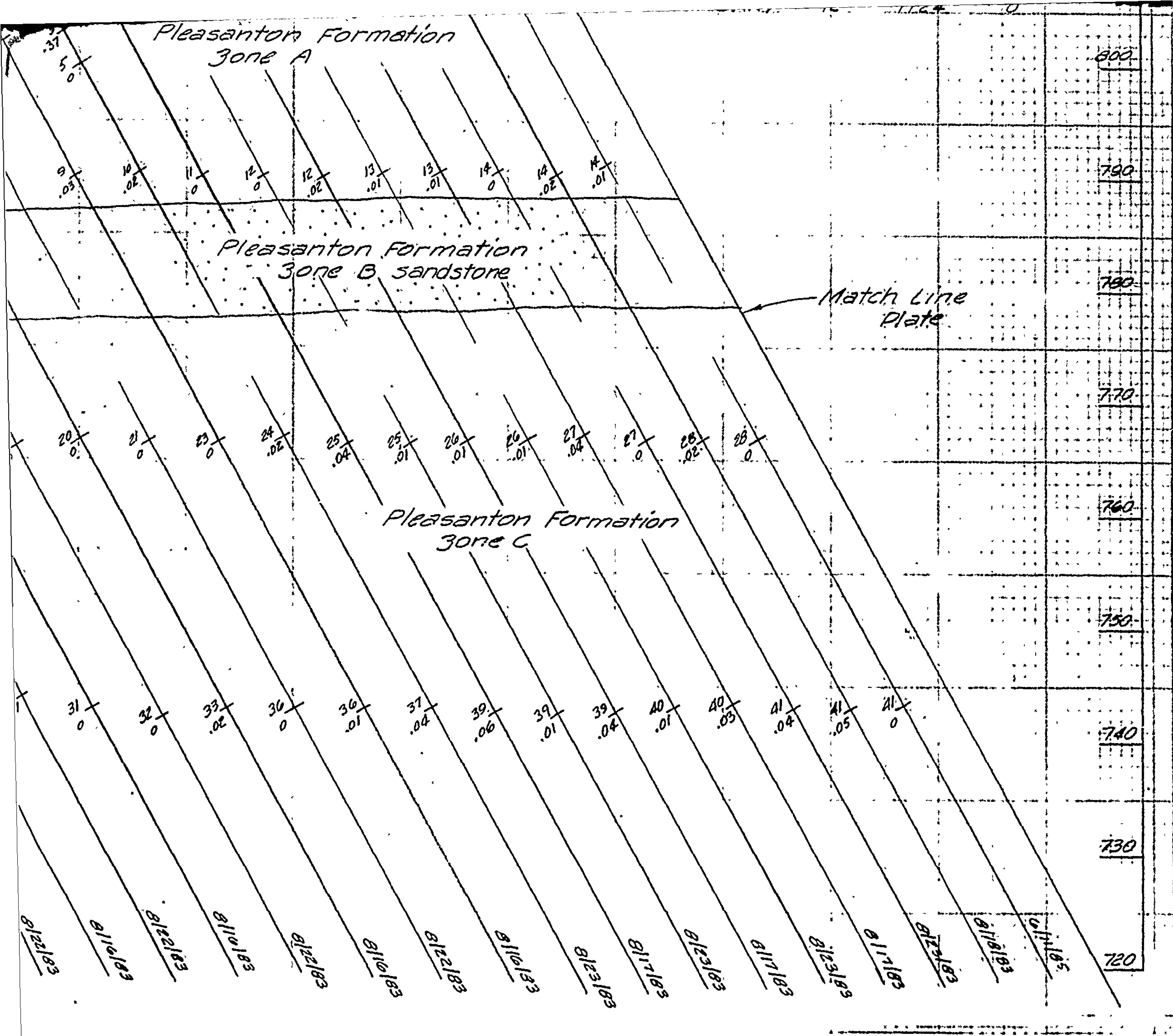
LINE C ON DAM AXIS STA 74+80

LOOKING DOWNSTREAM

0 10

SCALE IN FEET

for le



'N PROFILE RIGHT ABUTMENT

TA 74+80 TO STA 73+55

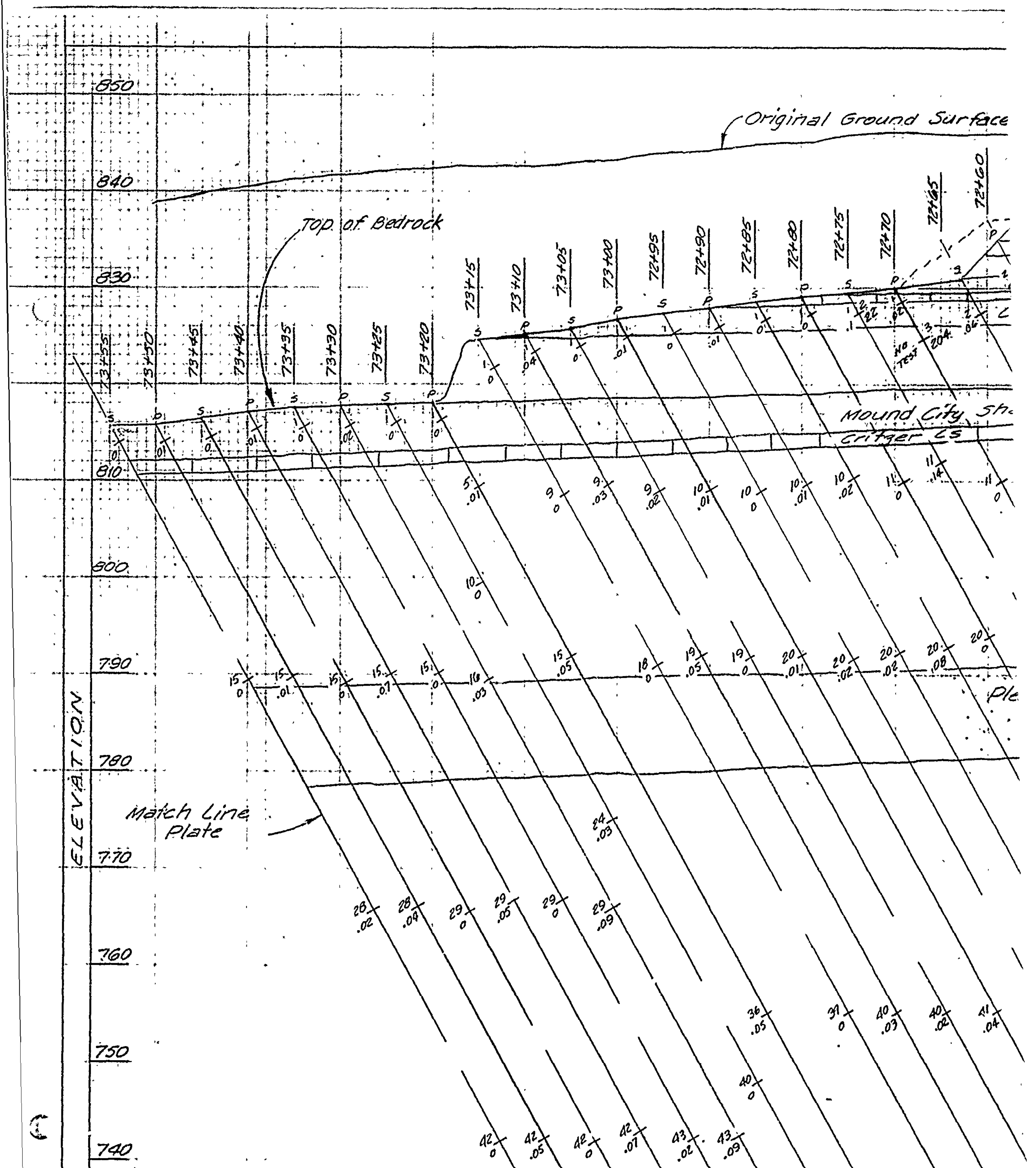
AM

for legend see Plate 44

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by: V.A.	GROUT CURTAIN PROFILE RIGHT ABUTMENT LINE C STA. 74+80 TO STA. 73+55
Checked by: C.H.	Scale: AS SHOWN
Submitted by:	Date: JUNE 1990
	Sheet number: 68
	Dwg. No.:
	File No.: RBL-2-1288

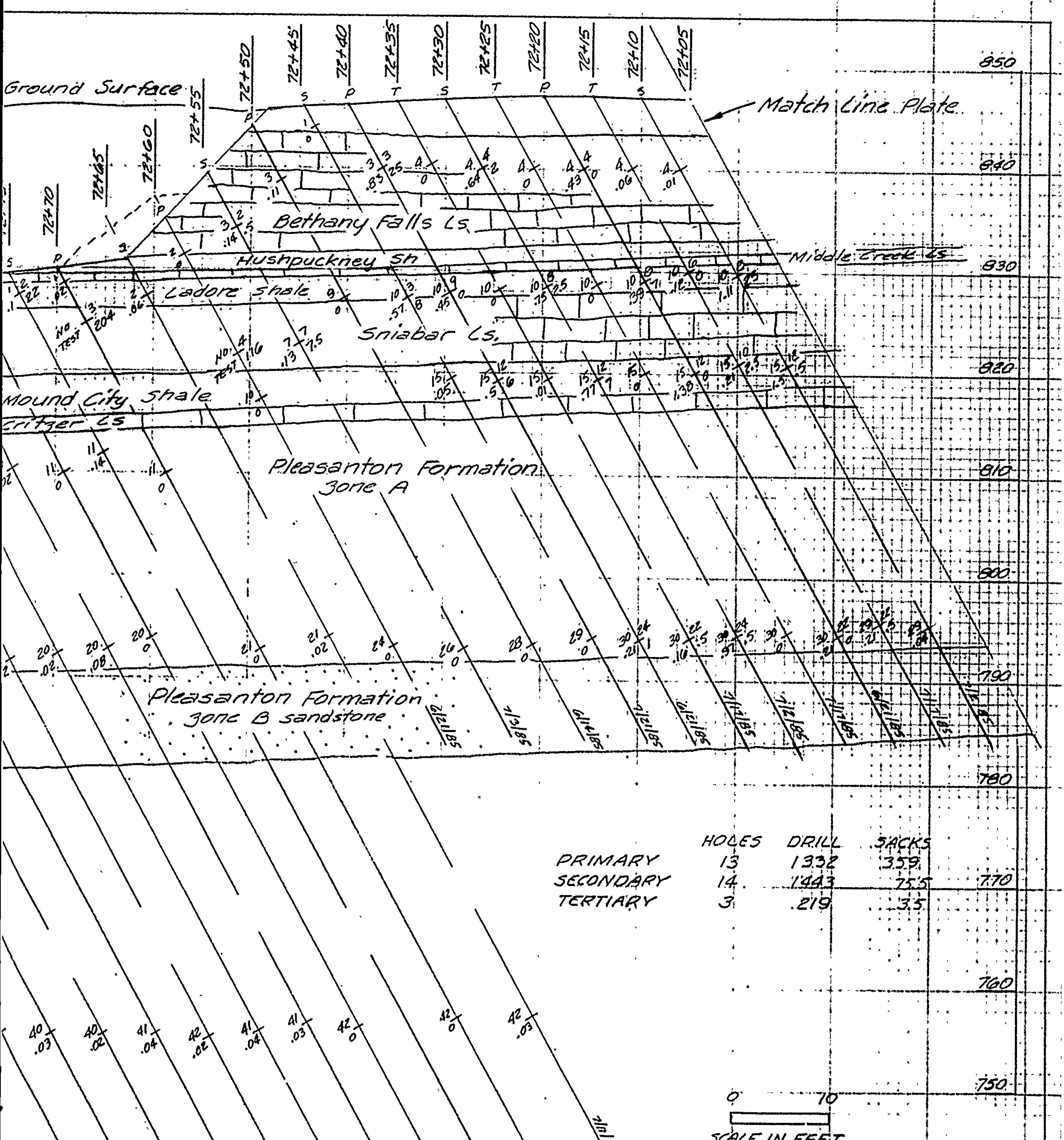
PLATE NO. 68



BLUE SPRINGS LAKE GROUT CURTAIN PROFILE RIGH

LINE C ON DAM AXIS STA 73+55 TO STA

LOOKING DOWNSTREAM



	HOLES	DRILL	SACKS
PRIMARY	13	1332	359
SECONDARY	14	1443	75.5
TERTIARY	3	219	3.5

OFILE RIGHT ABUTMENT

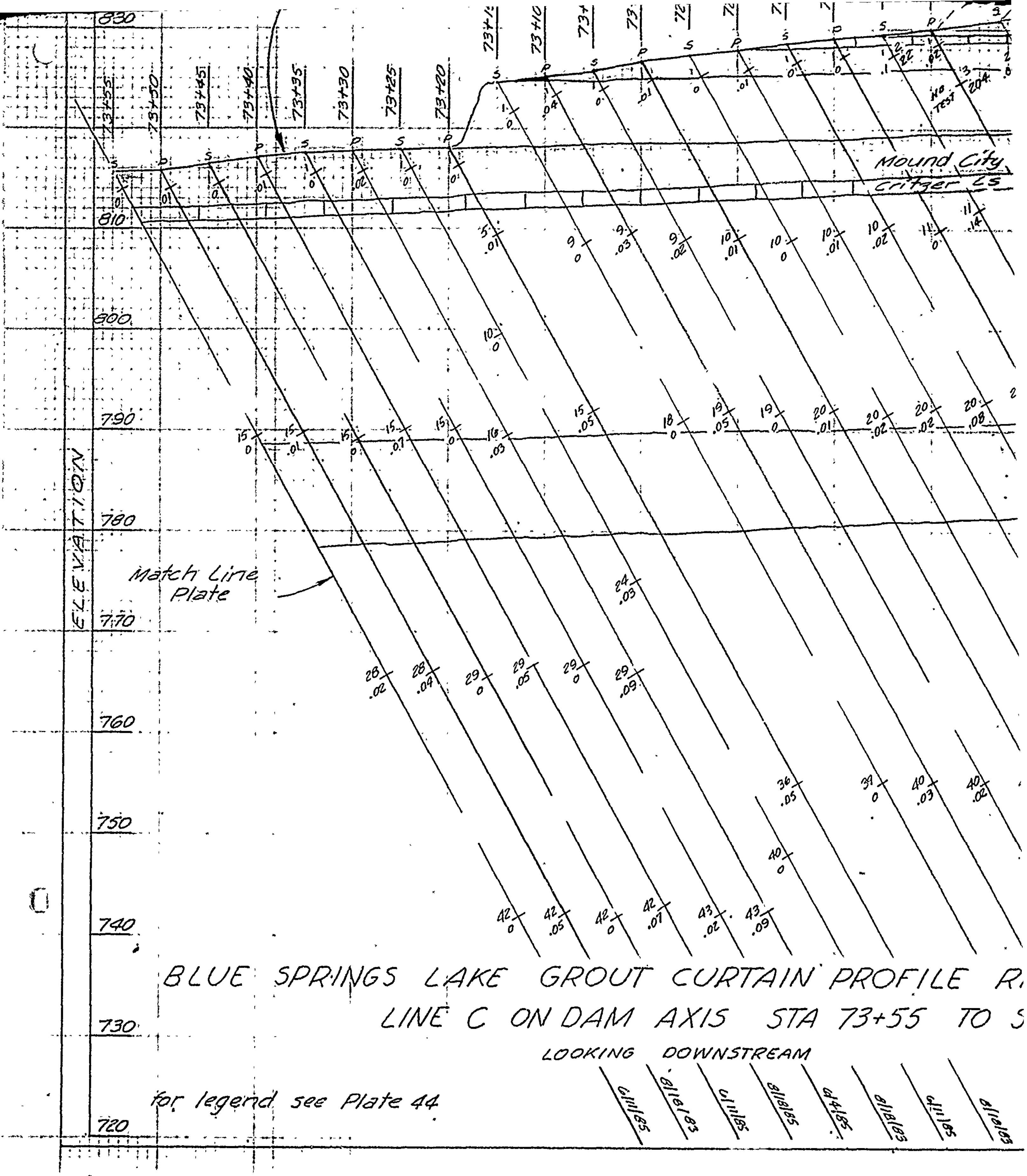
55 TO STA 72+05

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

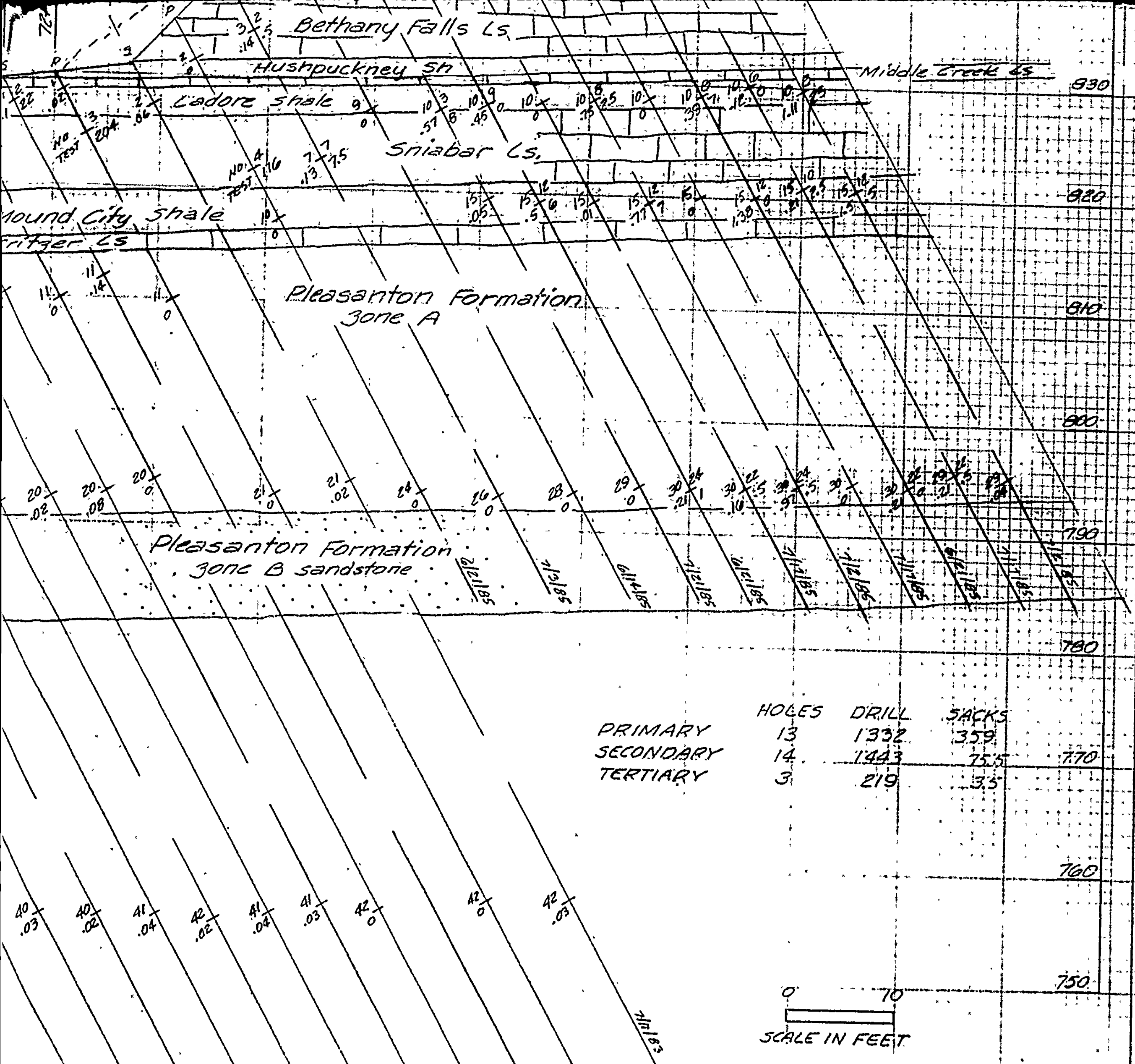
Designed by:

Drawn by:

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT
GROUT CURTAIN PROFILE



ELEVATION
830
810
800
790
780
770
760
750
740
730
720
73+55
73+50
73+45
73+40
73+35
73+30
73+25
73+20
73+10
Mound City
Critzer LS
Match Line Plate
NO TEST
BLUE SPRINGS LAKE GROUT CURTAIN PROFILE R
LINE C ON DAM AXIS STA 73+55 TO S
LOOKING DOWNSTREAM
6/11/85
8/18/83
6/11/85
8/18/85
6/4/85
8/18/83
6/11/85
8/18/83
for legend see Plate 44



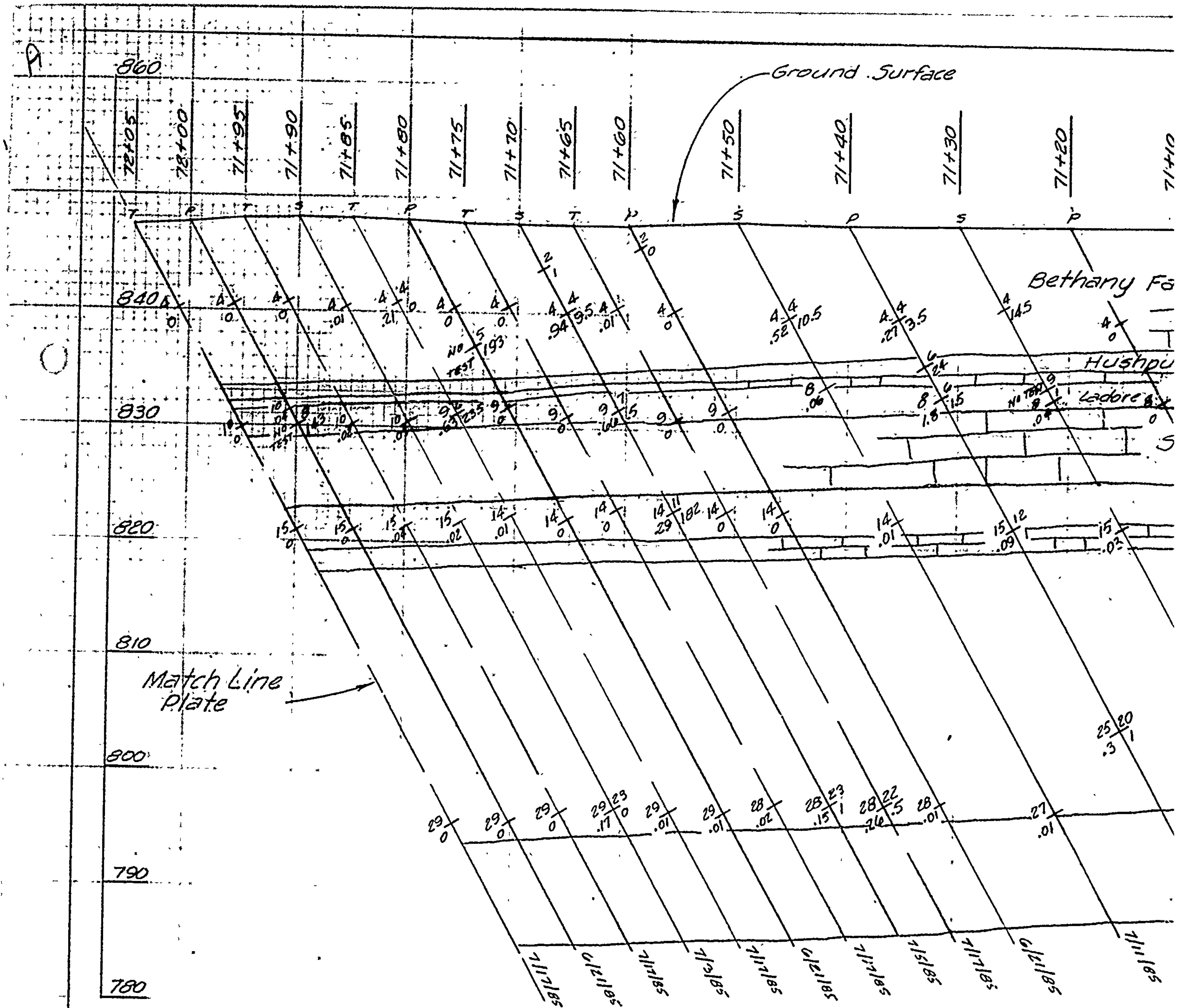
	HOLES	DRILL	SACKS
PRIMARY	13	1332	359
SECONDARY	14	1443	75.5
TERTIARY	3	219	3.5

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT
GROUT CURTAIN PROFILE
RIGHT ABUTMENT LINE B
STA. 73+55 TO STA. 72+05

Designed by:	
Drawn by:	V.A.
Checked by:	C.H.
Submitted by:	
Scale:	AS SHOWN
Date:	JUNE 1990
Sheet number:	69
File No.:	RBL-2-1289

PLATE NO. 69

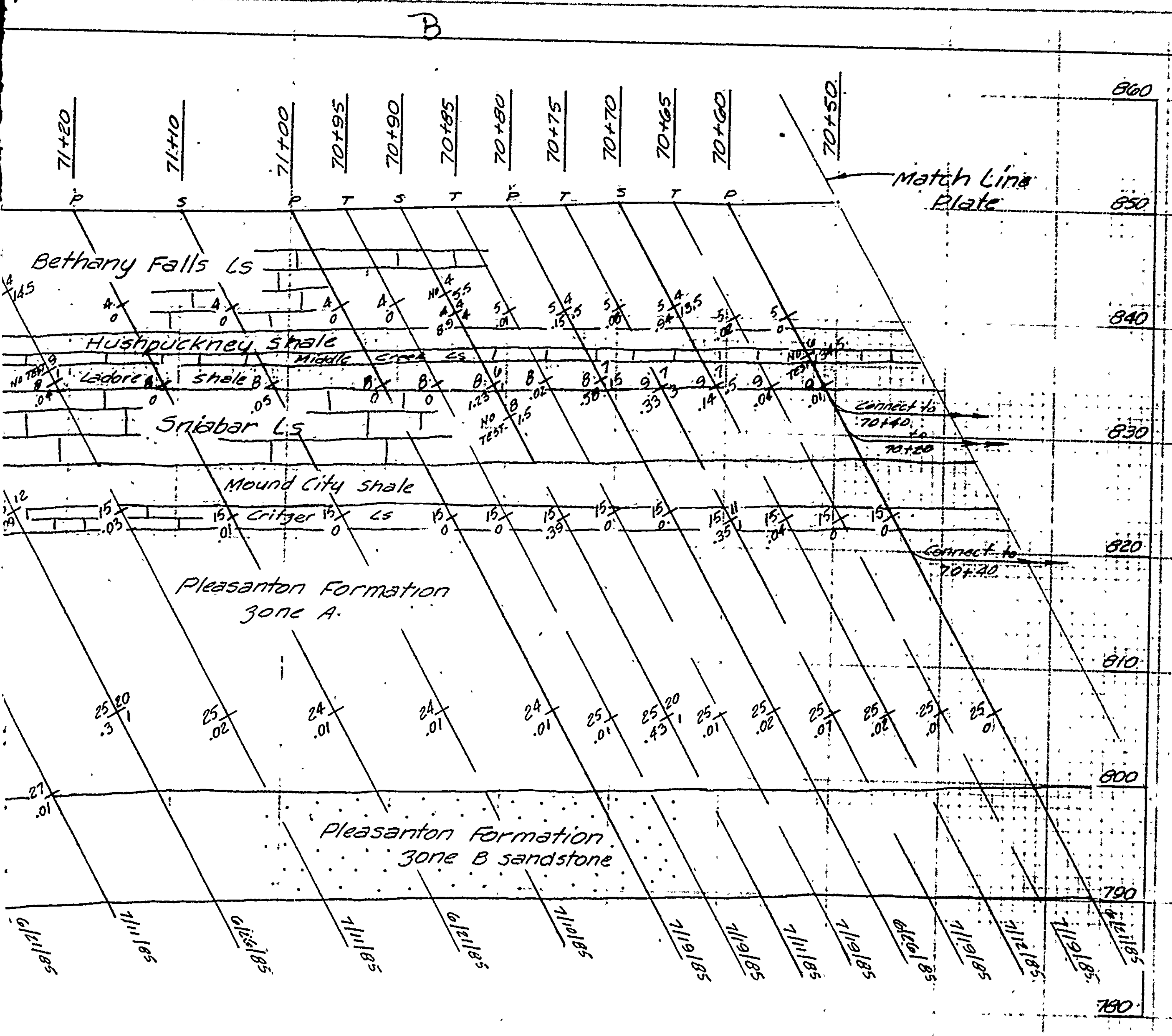


BLUE SPRINGS LAKE GROUT CURTAIN PROFILE R

LINE C ON DAM AXIS STA 72+05 TO

LOOKING DOWNSTREAM

0 10



	HOLES	DRILL	SACKS
PRIMARY	8	585'	517
SECONDARY	7	511'	240
TERTIARY	9	666'	28

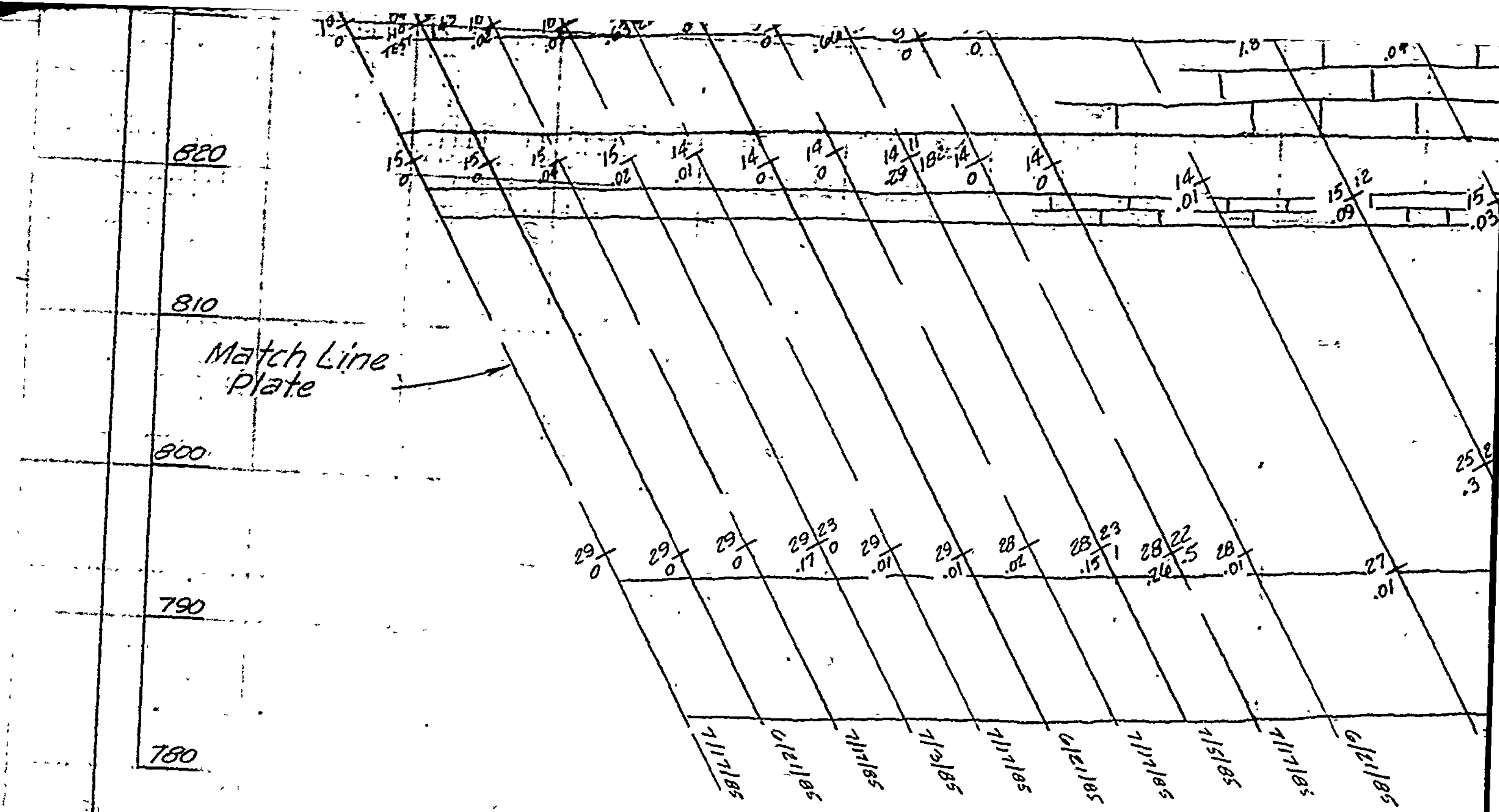
'OFILE RIGHT ABUTMENT
+05 TO STA 70+50

for legend see Plate 44

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

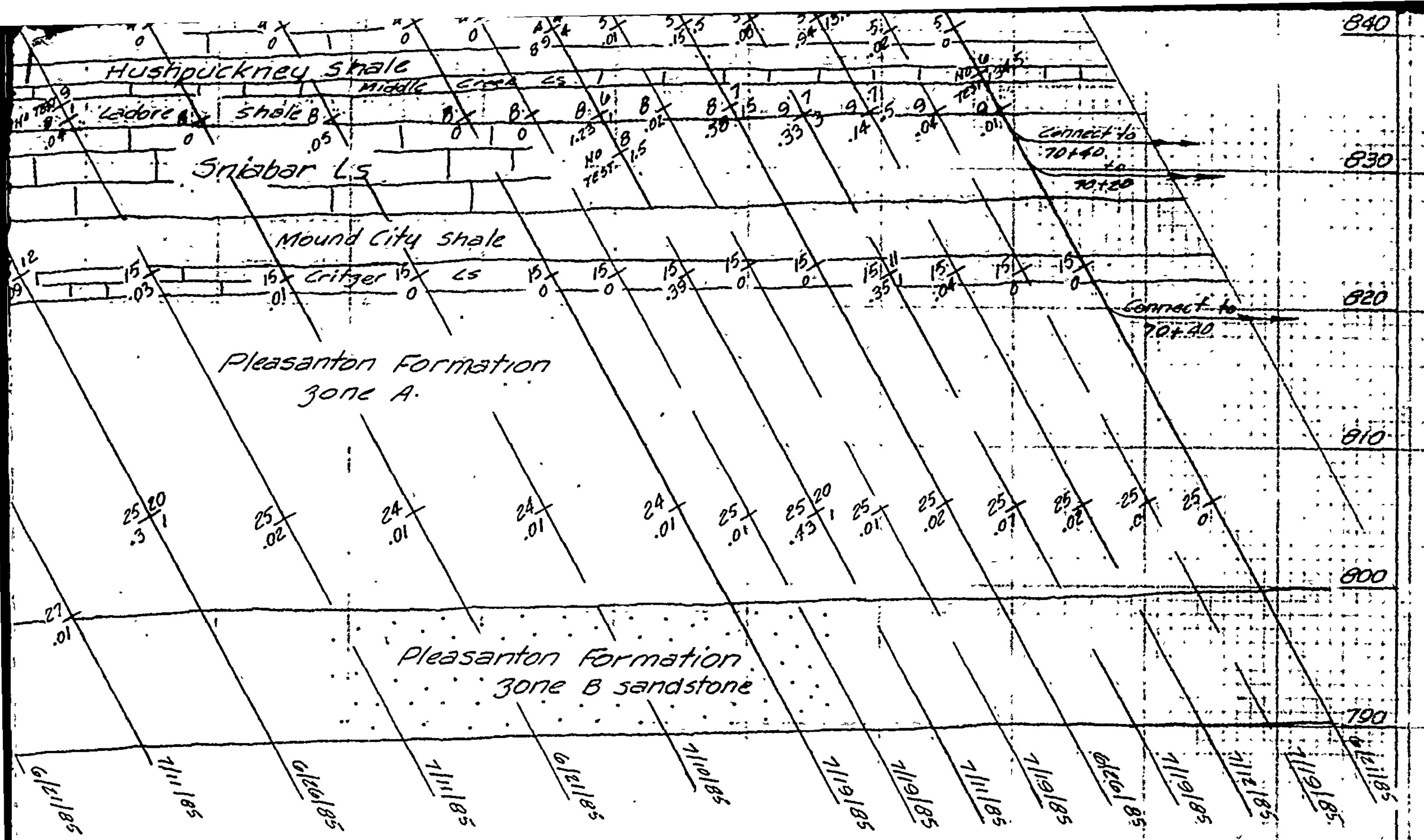
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT
GROUT CURTAIN PROFILE
RIGHT ABUTMENT LINE C
STA. 72+05 TO STA. 70+50

Designed by:
Drawn by: V.A.
Checked by: C.H.
Submitted by:
Scale: AS SHOWN
Date: JUNE 1990
Sheet number: 70



BLUE SPRINGS LAKE GROUT CURTAIN PROFILE
LINE C ON DAM AXIS STA 72+05 T
LOOKING DOWNSTREAM

0 10
SCALE IN FEET



	HOLES	DRILL	SACKS
PRIMARY	8	585'	517
SECONDARY	7	511'	240
TERTIARY	9	666'	28

OFILE RIGHT ABUTMENT

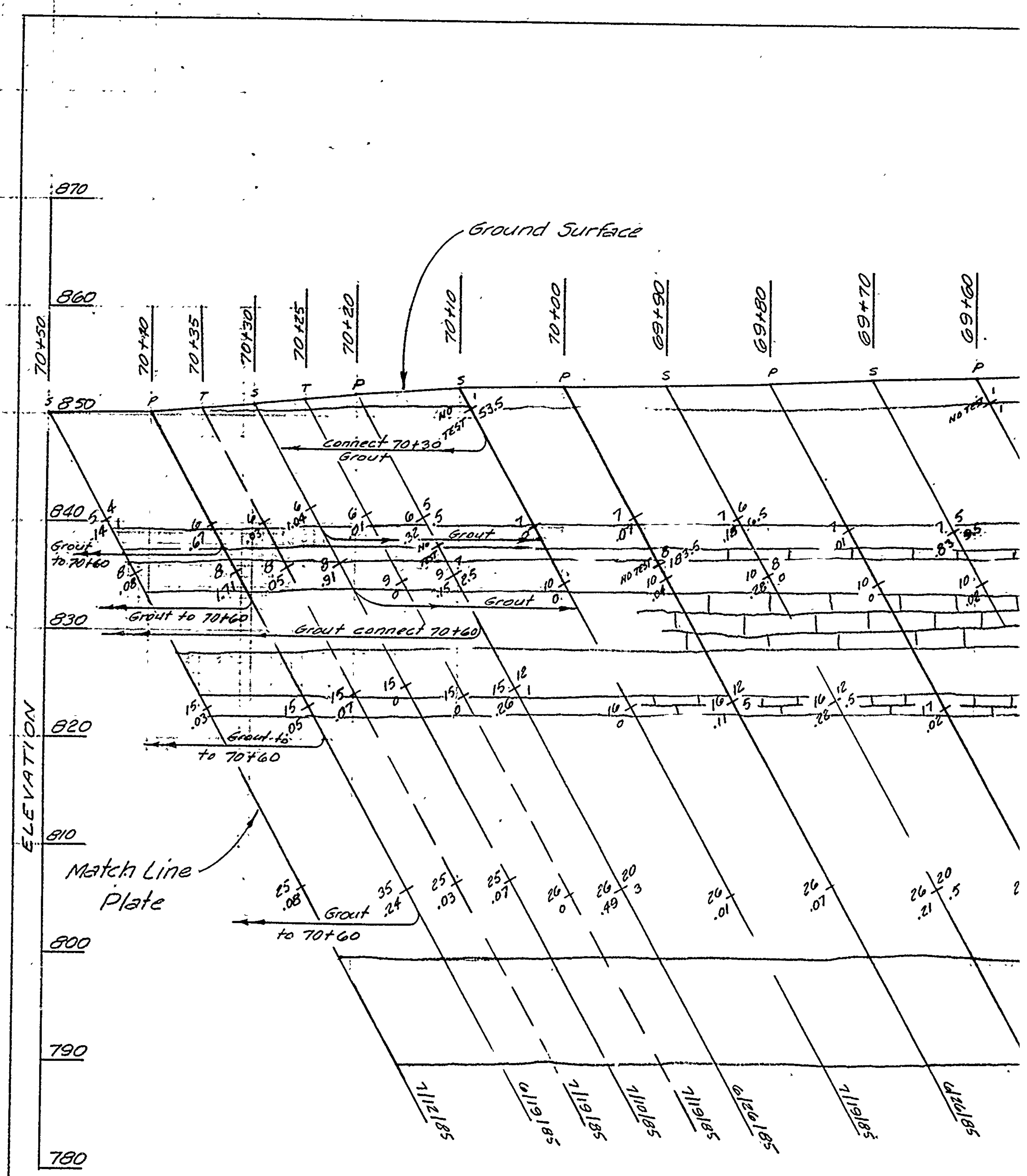
+05 TO STA 70+50

for legend see Plate 44

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT GROUT CURTAIN PROFILE RIGHT ABUTMENT LINE C STA. 72+05 TO STA. 70+50
Drawn by: V.A.	
Checked by: C.H.	Scale: AS SHOWN
Submitted by:	Date: JUNE 1990
	Sheet number: 70
	File No.: RBL-2-1290

PLATE NO. 70

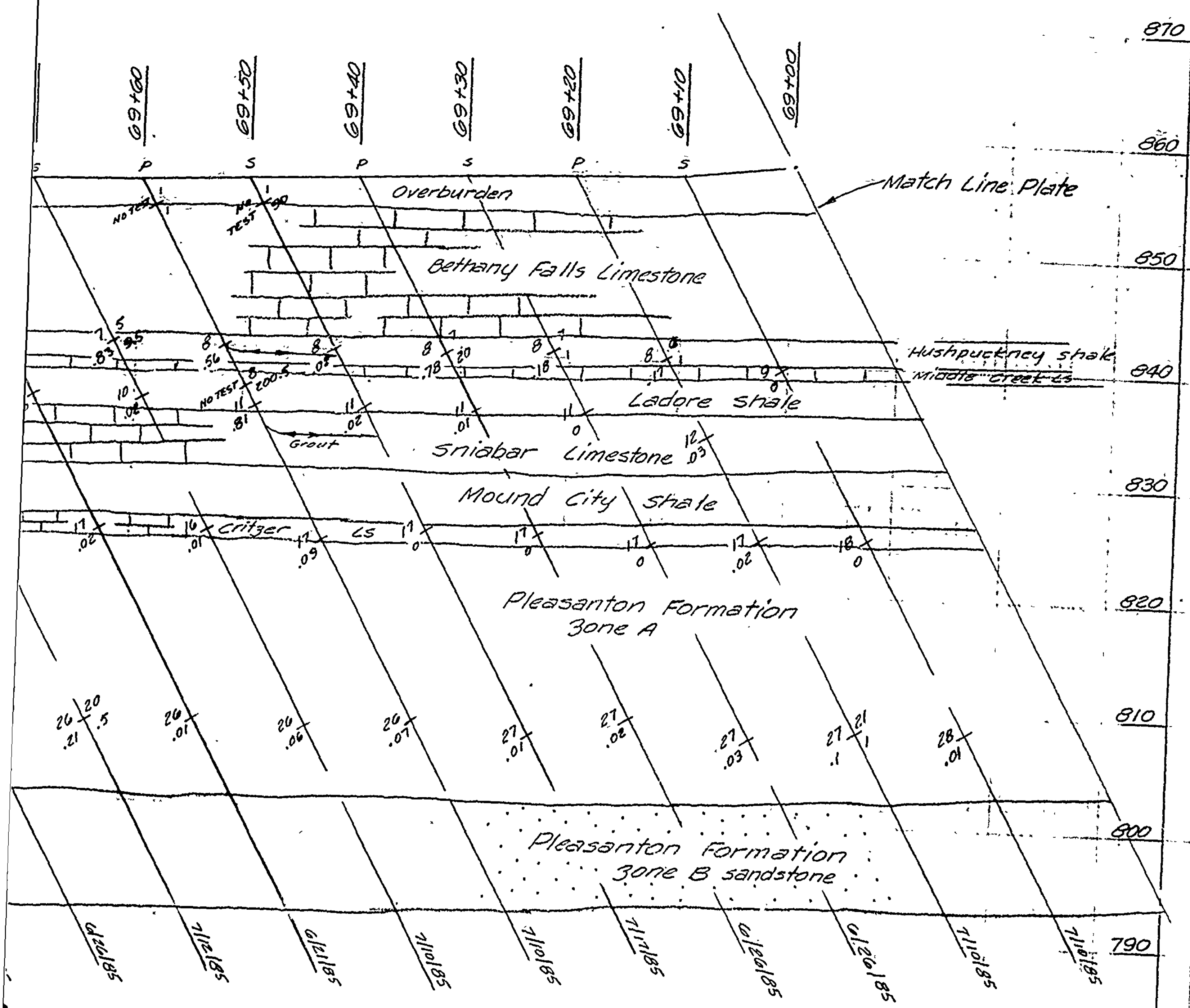


BLUE SPRINGS LAKE GROUT CURTAIN PROFILE

LINE C ON DAM AXIS STA 70+50

LOOKING DOWNSTREAM

	HOLES	DRILL	SACKS
PRIMARY	7	540	418
SECONDARY	8	618	162.5
TERTIARY	2	153	0



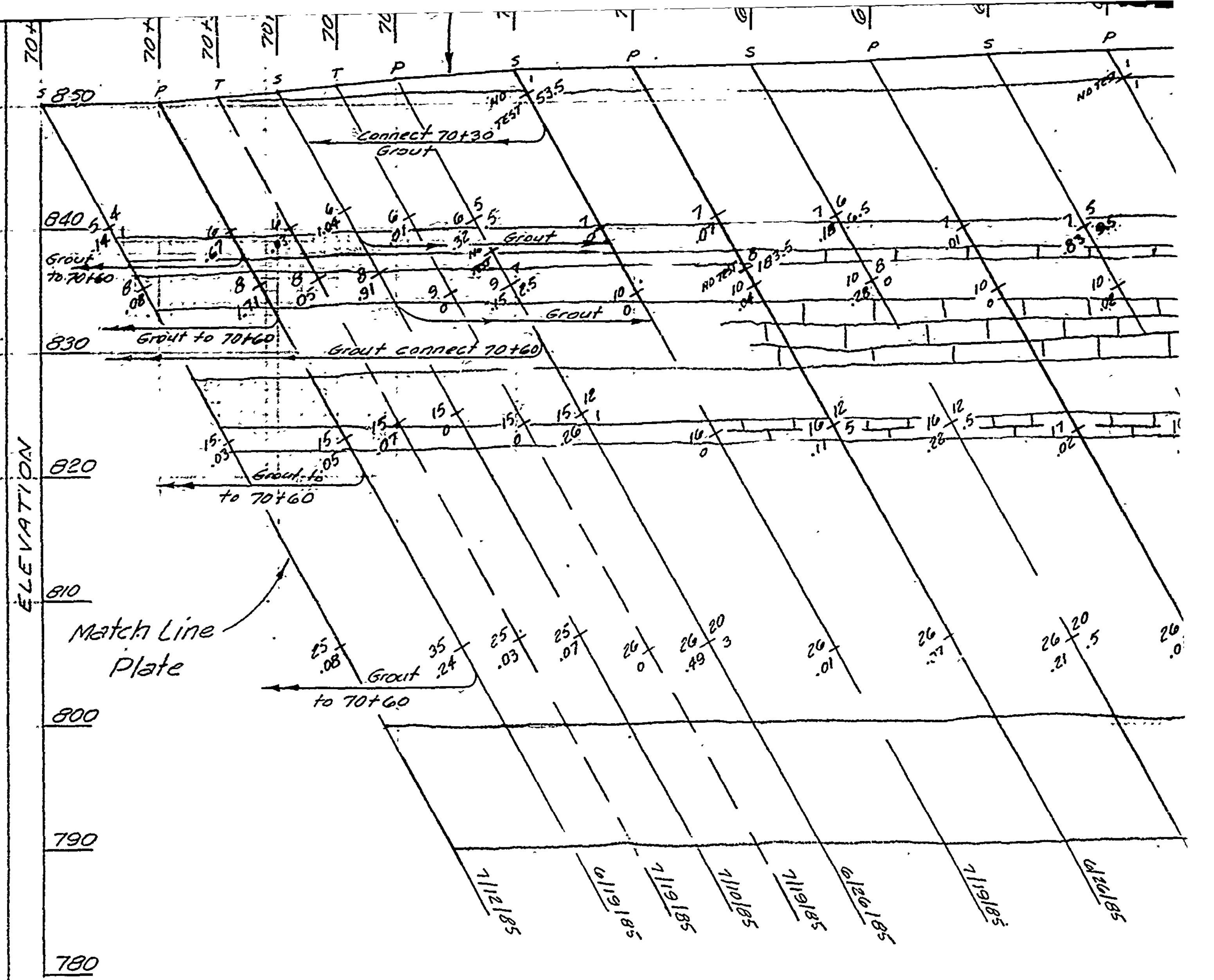
PROFILE RIGHT ABUTMENT
STA 70+50 TO STA 69+00
EAM

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:

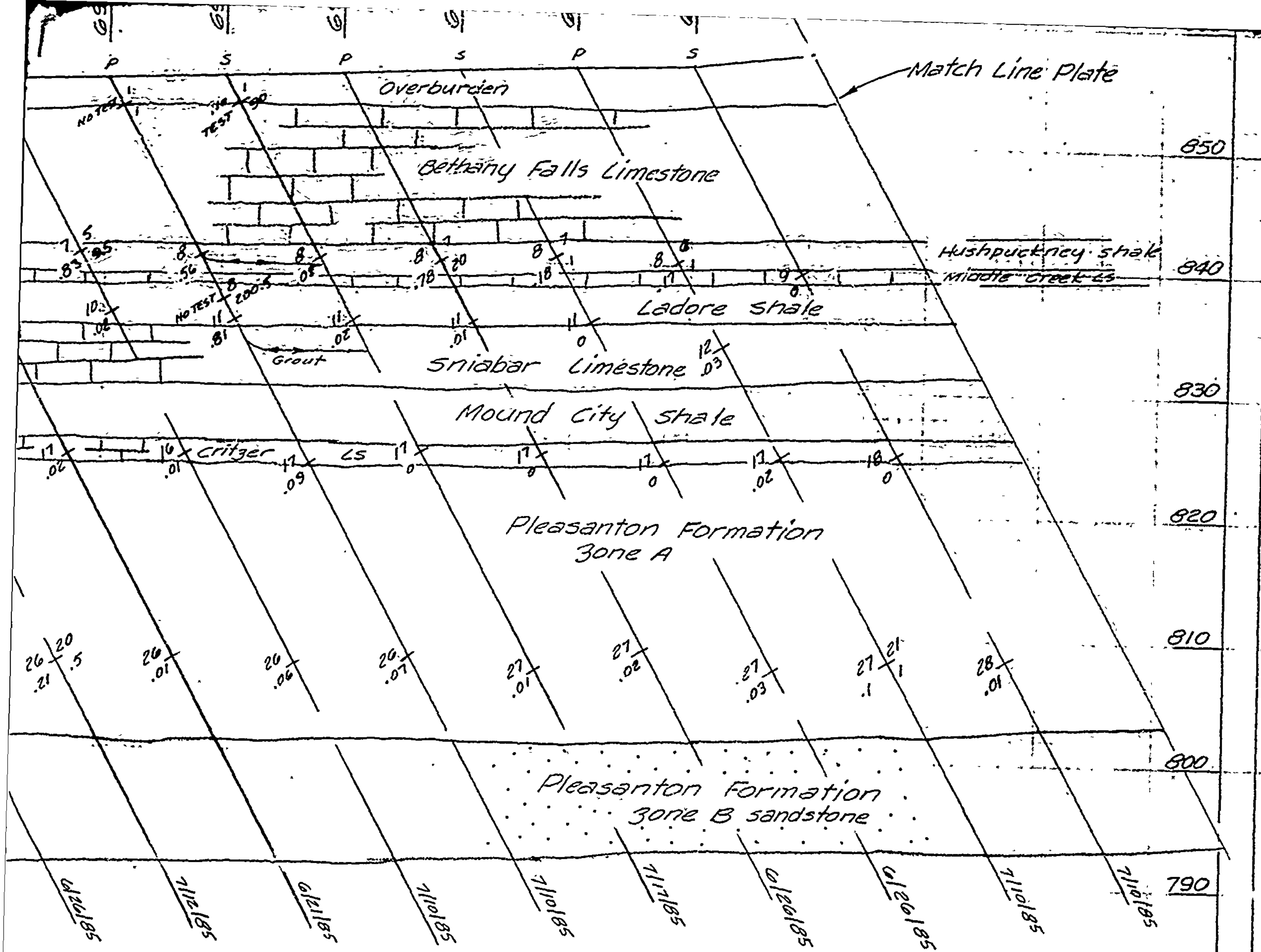
Drawn by: V.A.

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT
GROUT CURTAIN PROFILE
RIGHT ABUTMENT LINE C



BLUE SPRINGS LAKE GROUT CURTAIN PROFILE
LINE C ON DAM AXIS STA 70+50
LOOKING DOWNSTREAM

0 10
SCALE IN FEET



OFILE RIGHT ABUTMENT

A 70+50 TO STA 69+00

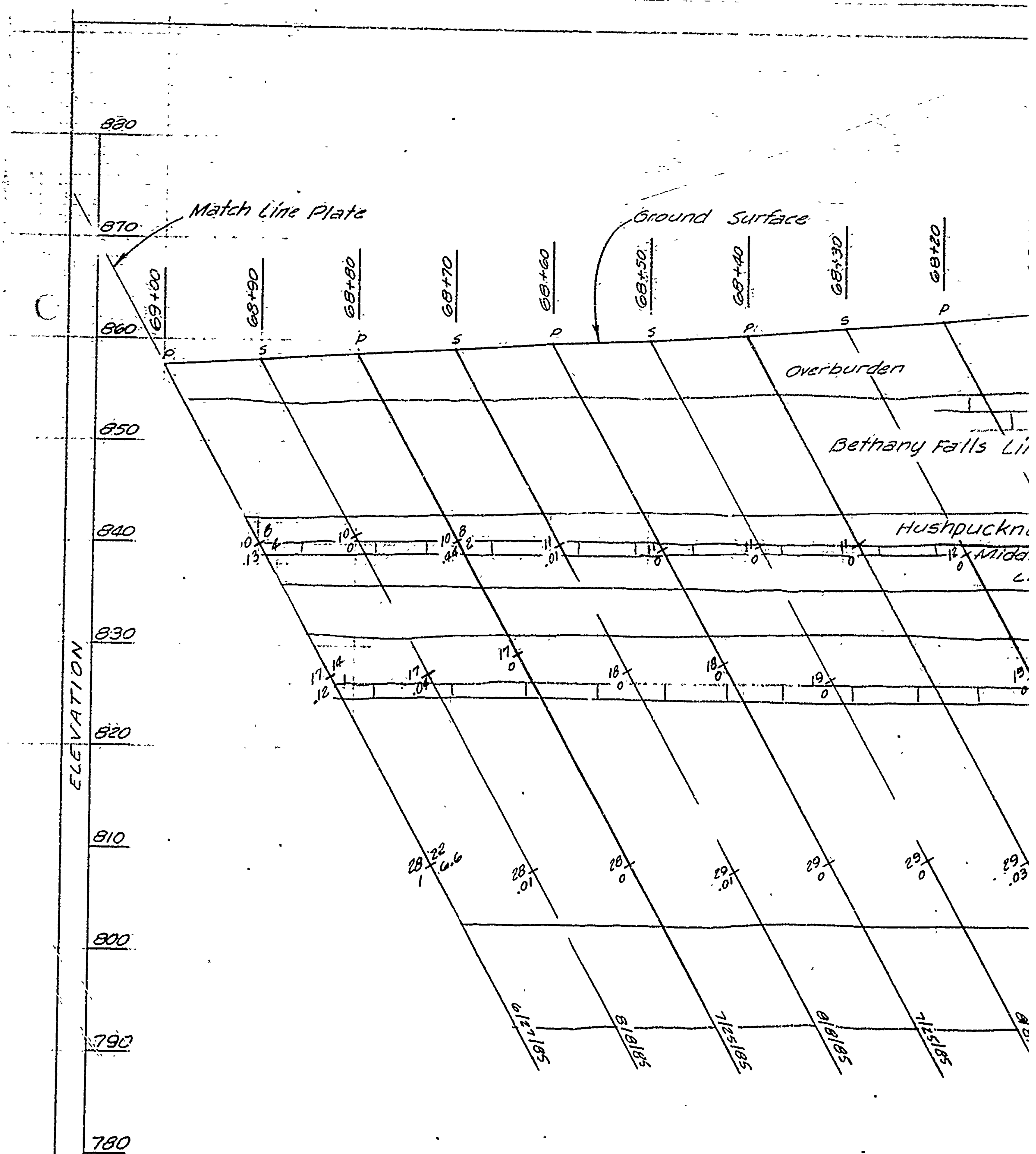
M

For Legend see Plate 44

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT GROUT CURTAIN PROFILE RIGHT ABUTMENT LINE C STA. 70+50 TO STA. 69+00
Drawn by: V.A.	
Checked by: C.H.	Scale: AS SHOWN
Submitted by:	Date: JUNE 1990 — Sheet Number: 71
	Dwg No: — File No.: RBL-2-1291

PLATE NO. 71

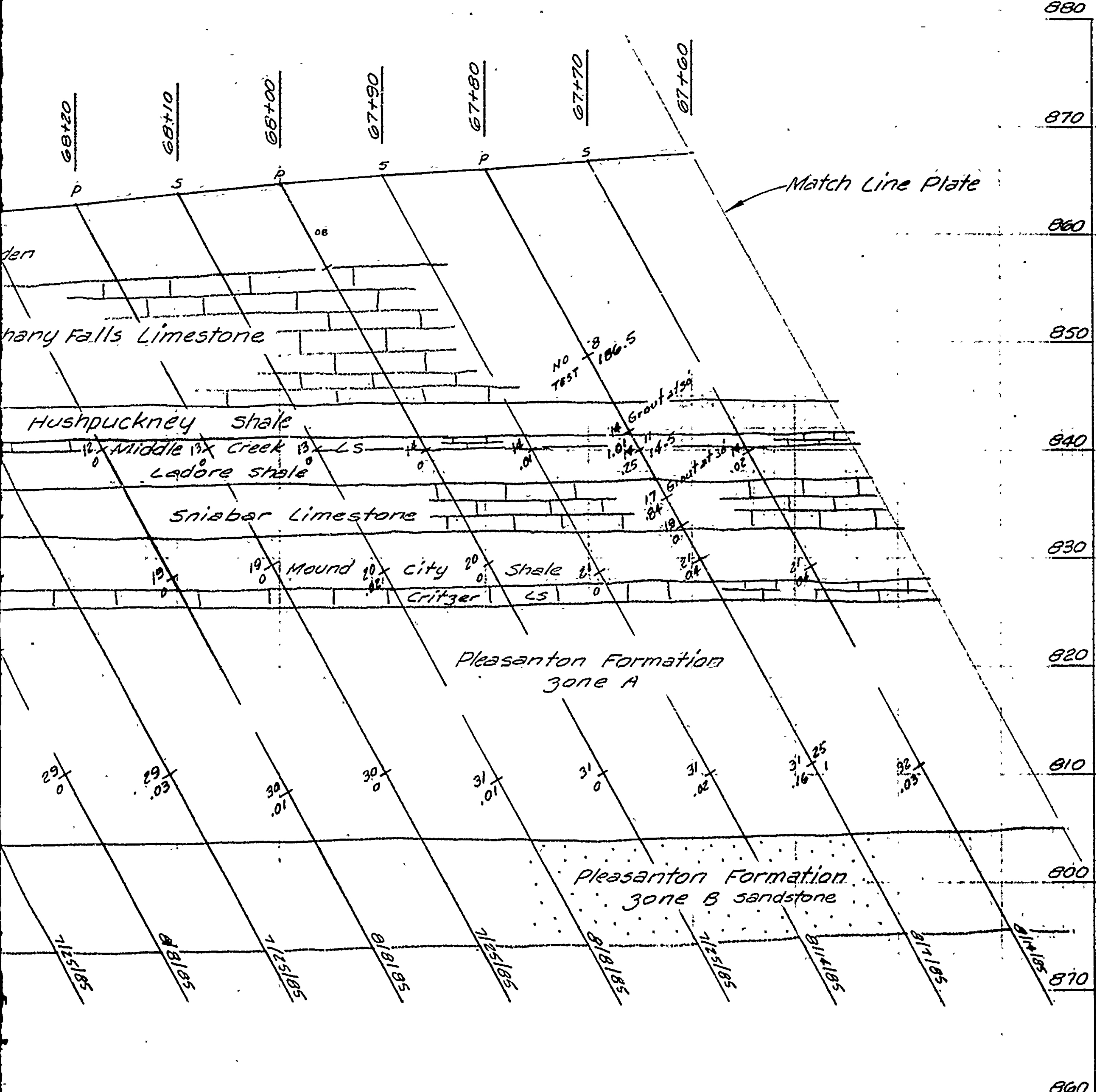


BLUE SPRINGS LAKE GROUT CURTAIN PROFILE

LINE C ON DAM AXIS STA 69+00

LOOKING DOWNSTREAM

	HOLES	DRILL	SACKS
PRIMARY	7	585'	215.6
SECONDARY	7	590'	0



...PROFILE RIGHT ABUTMENT

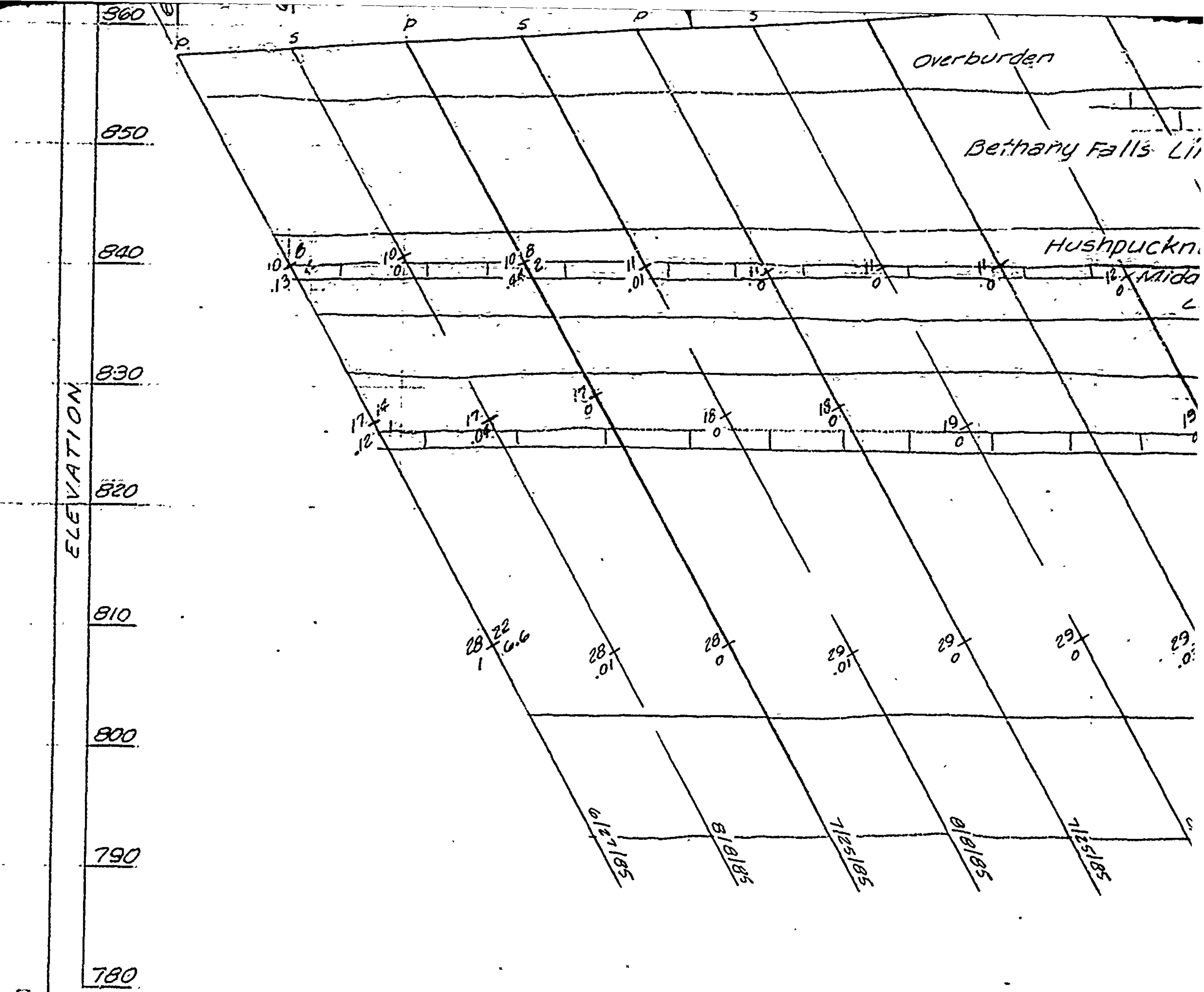
...TA 69+00 TO STA 67+60

...EAM

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

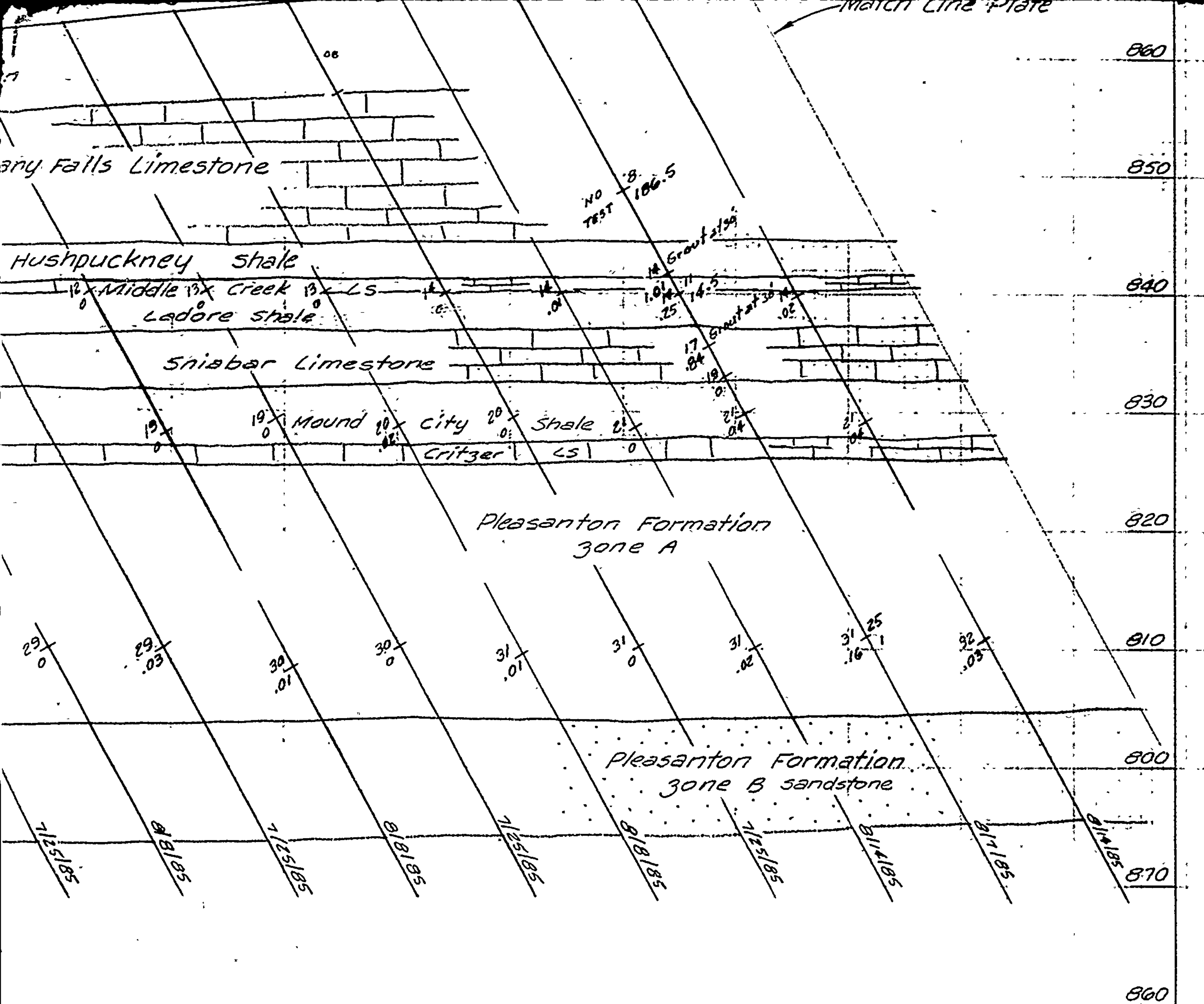
Designed by:

EAST FORK LITTLE BLUE RIVER, MISSOUR...
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT...



BLUE SPRINGS LAKE GROUT CURTAIN PROFILE
LINE C ON DAM AXIS STA 69+00
LOOKING DOWNSTREAM

0 10
SCALE IN FEET



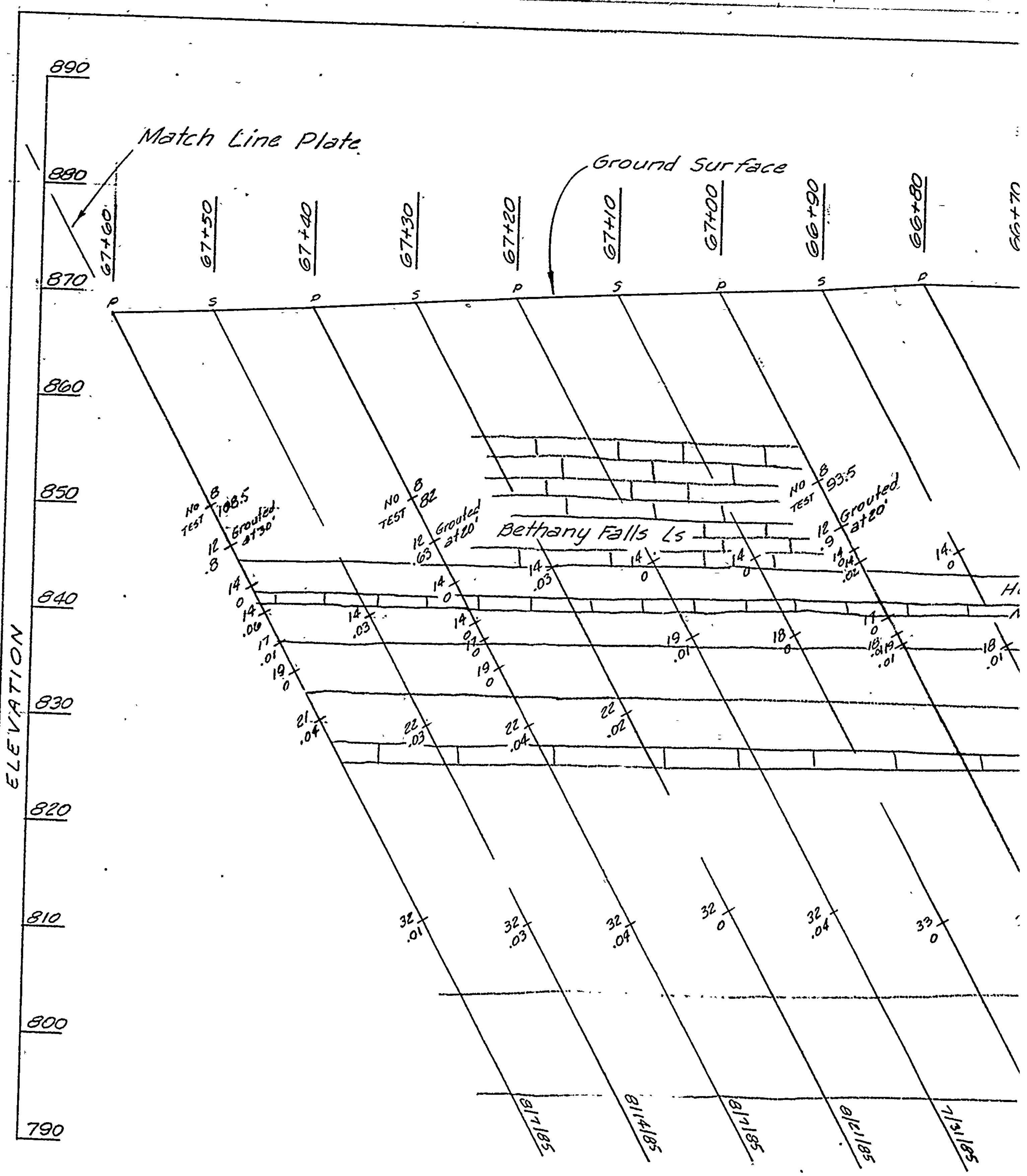
ROFILE RIGHT ABUTMENT
A 69+00 TO STA 67+60
AM

For legend see Plate 44

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by: V.A.	GROUT CURTAIN PROFILE RIGHT ABUTMENT LINE C STA. 69+00 TO STA. 67+60
Checked by: C.H.	Scale: AS SHOWN — Sheet number:
Submitted by:	Date: JUNE 1990 — 72
	Dwg. No.: — File No. RBL-2-1292

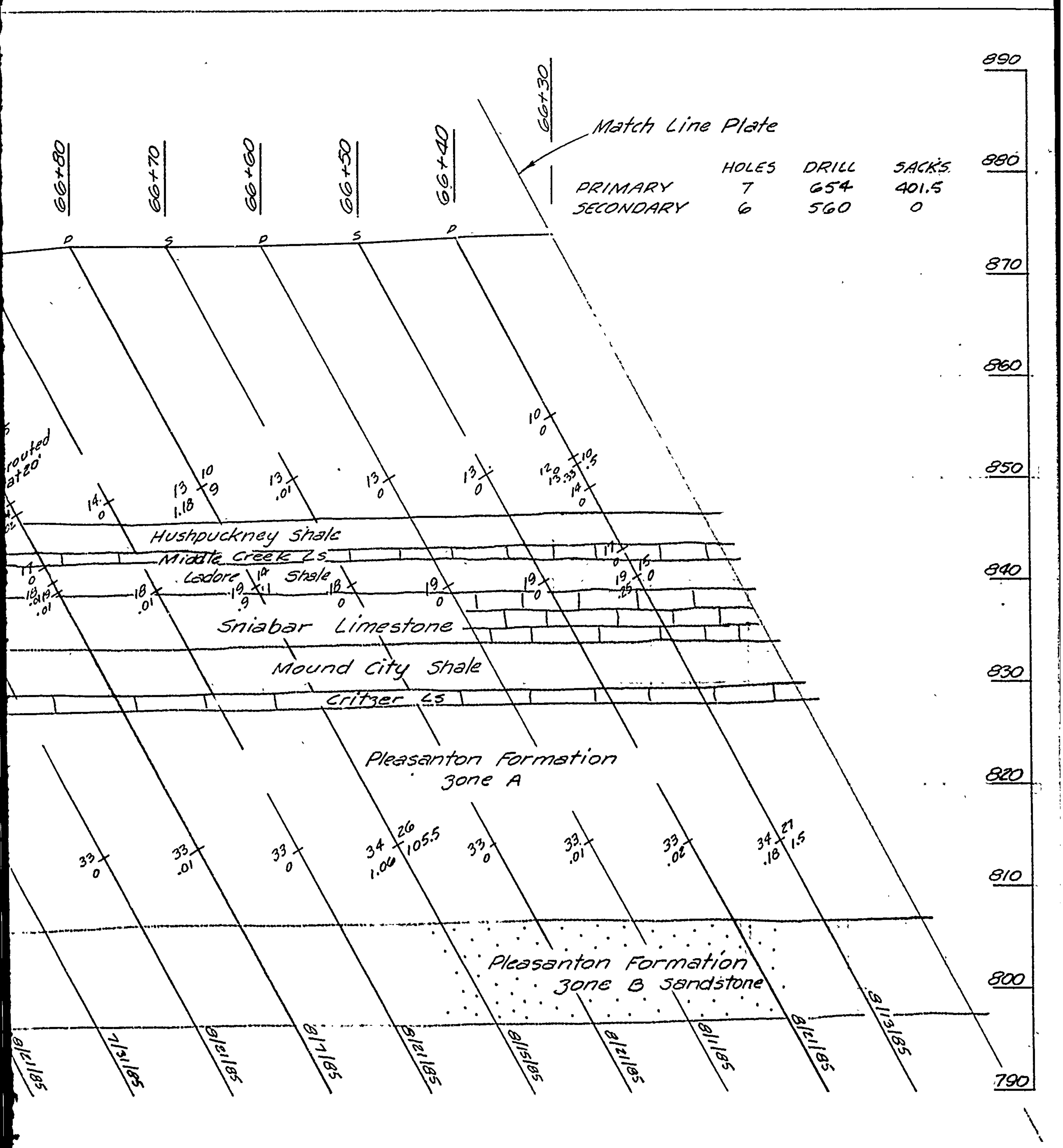
PLATE NO. 72



BLUE SPRINGS LAKE GROUT CURTAIN PROFILE

LINE C ON DAM AXIS STA 67+60

LOOKING DOWNSTREAM



PROFILE RIGHT ABUTMENT

STA 67+60 TO STA 66+30

AM

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

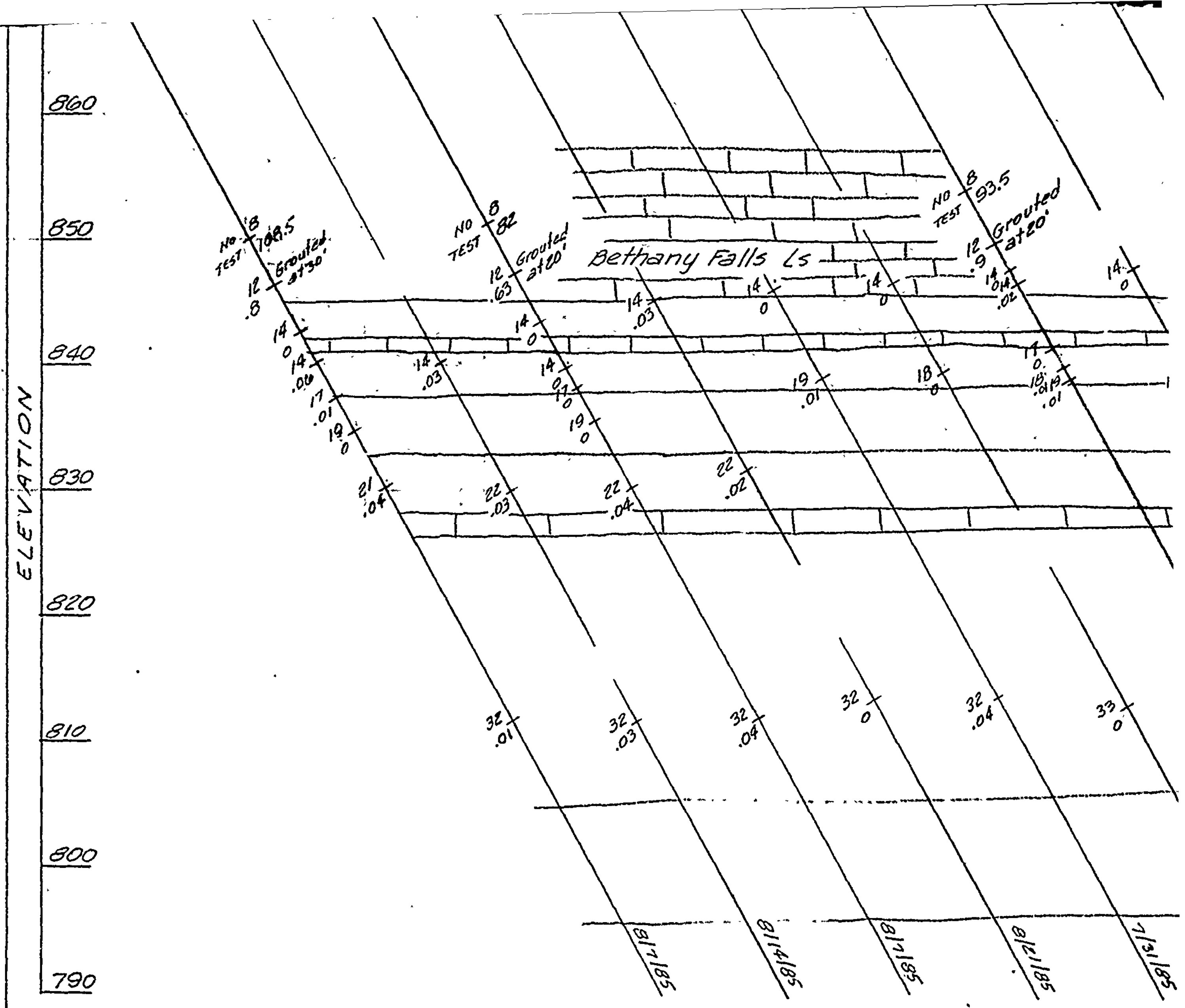
Designed by:

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

Drawn by: V.A.

GROUT CURTAIN PROFILE
RIGHT ABUTMENT LINE C
STA. 67+60 TO STA. 66+30

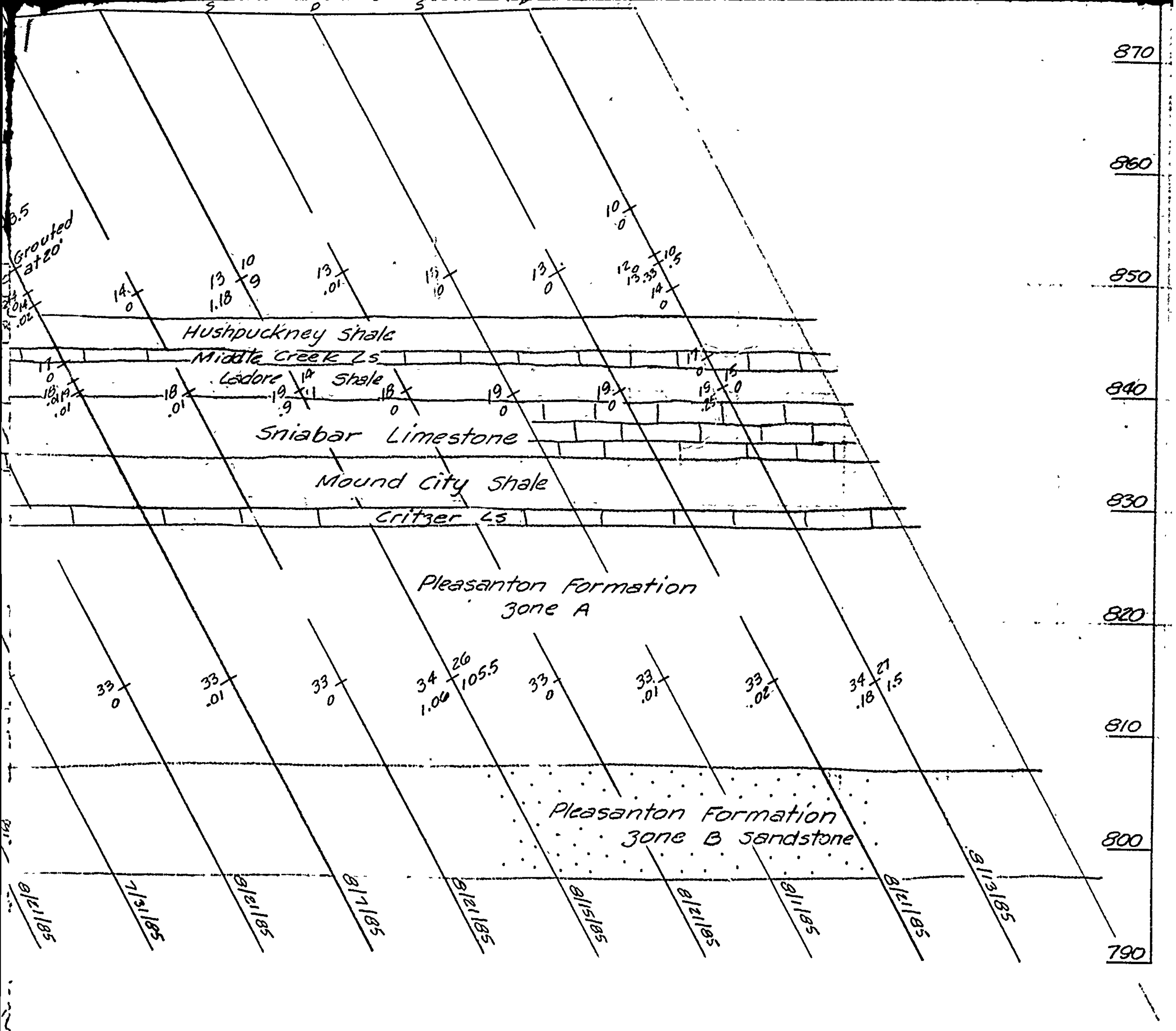
Checked by:



BLUE SPRINGS LAKE GROUT CURTAIN PROFILE
LINE C ON DAM AXIS STA 67+6

LOOKING DOWNSTREAM

0 10
SCALE IN FEET



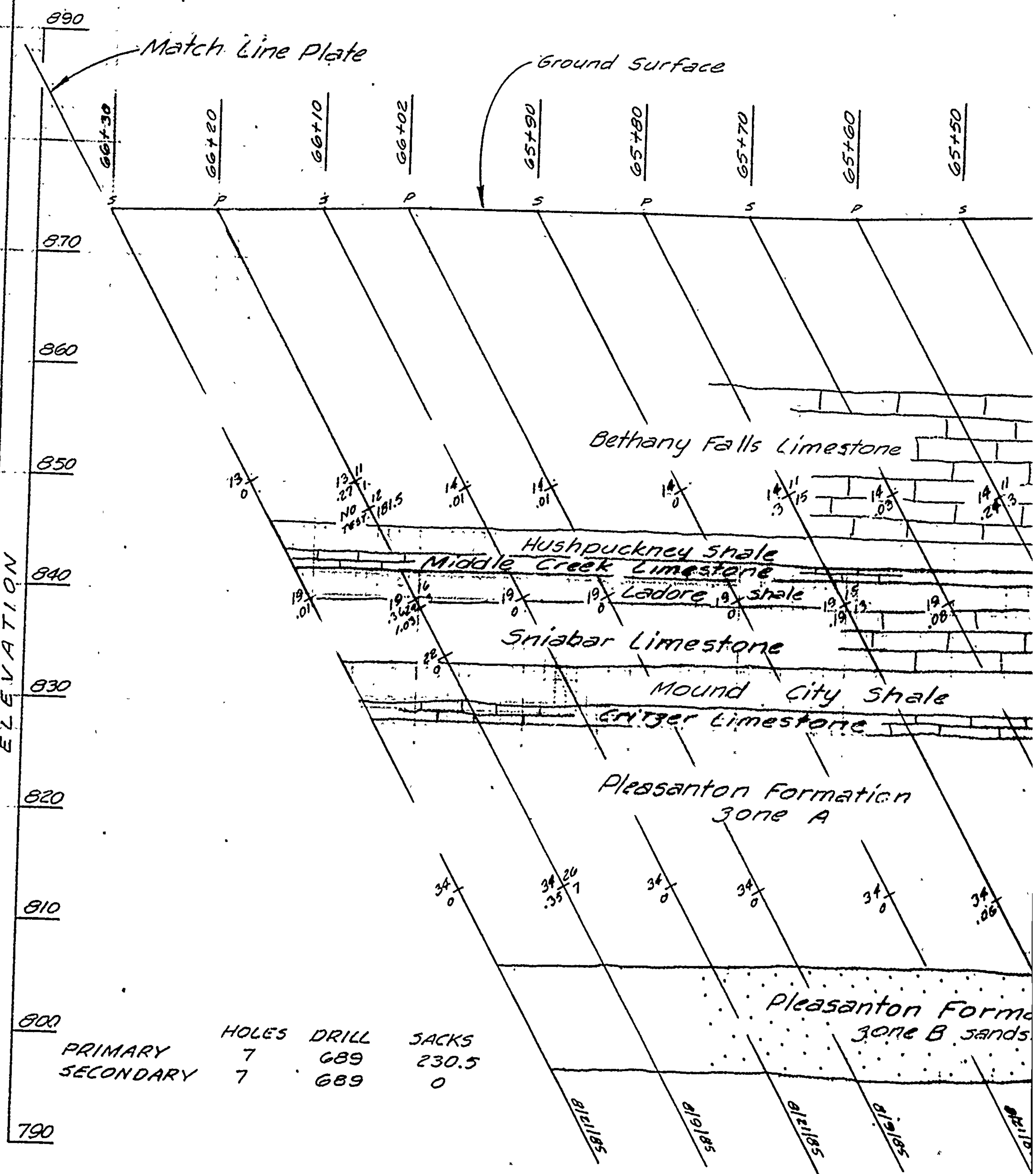
PROFILE RIGHT ABUTMENT
STA 67+60 TO STA 66+30
EAM

For legend see Plate 44

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

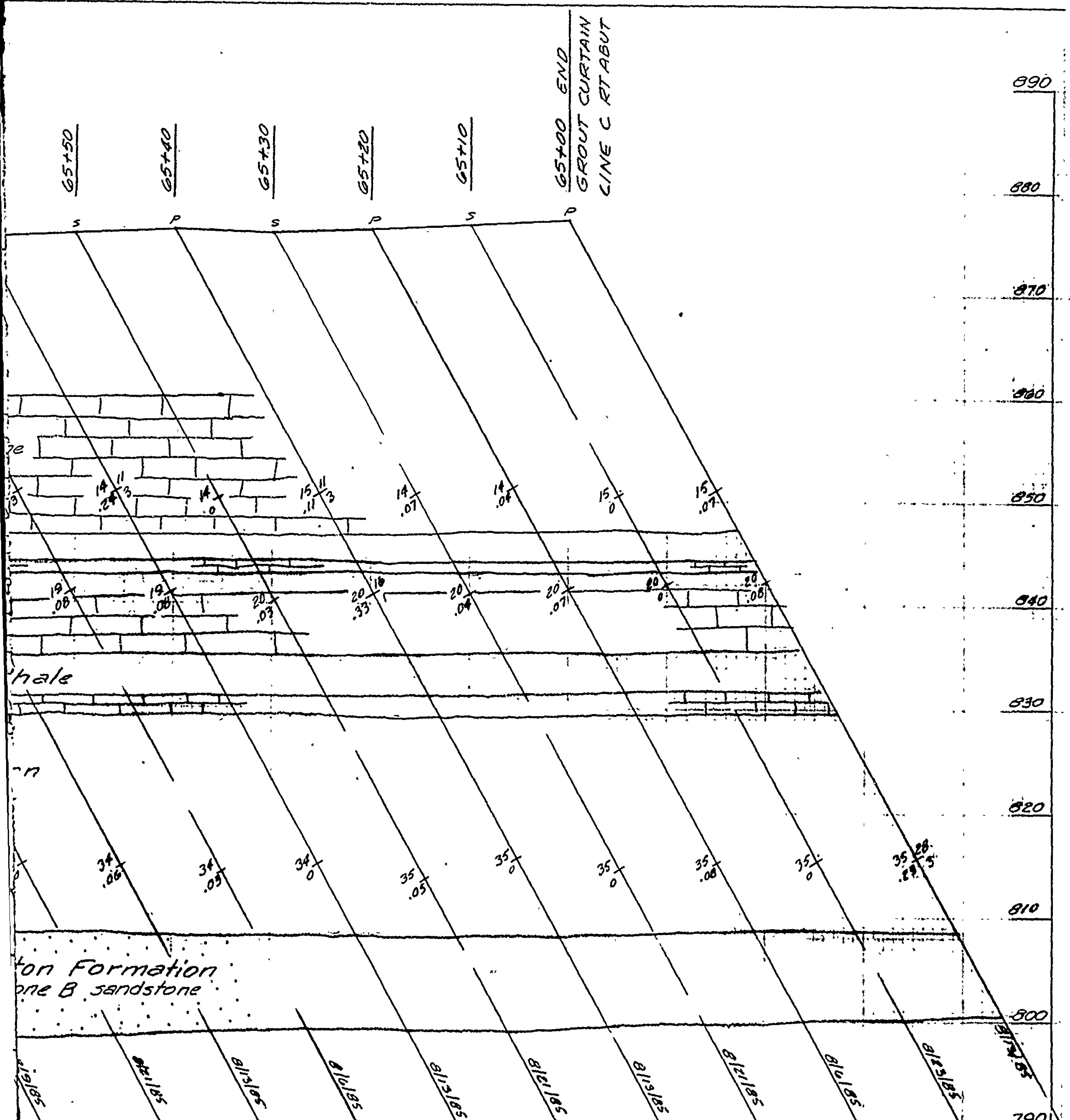
Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by: V.A.	GROUT CURTAIN PROFILE RIGHT ABUTMENT LINE C STA. 67+60 TO STA. 66+30
Checked by: C.H.	Scale: AS SHOWN — Sheet number: 73
Submitted by:	Date: JUNE 1990 — Drwg. No.: — File No.: RBL-2-1293

PLATE NO. 73



	HOLES	DRILL	SACKS
PRIMARY	7	689	230.5
SECONDARY	7	689	0

BLUE SPRINGS LAKE GROUT CURTAIN PPOFILE
LINE C ON DAM AXIS STA 66+3
LOOKING DOWNSTREAM



PROFILE RIGHT ABUTMENT

TA 66+30 TO STA 65+00

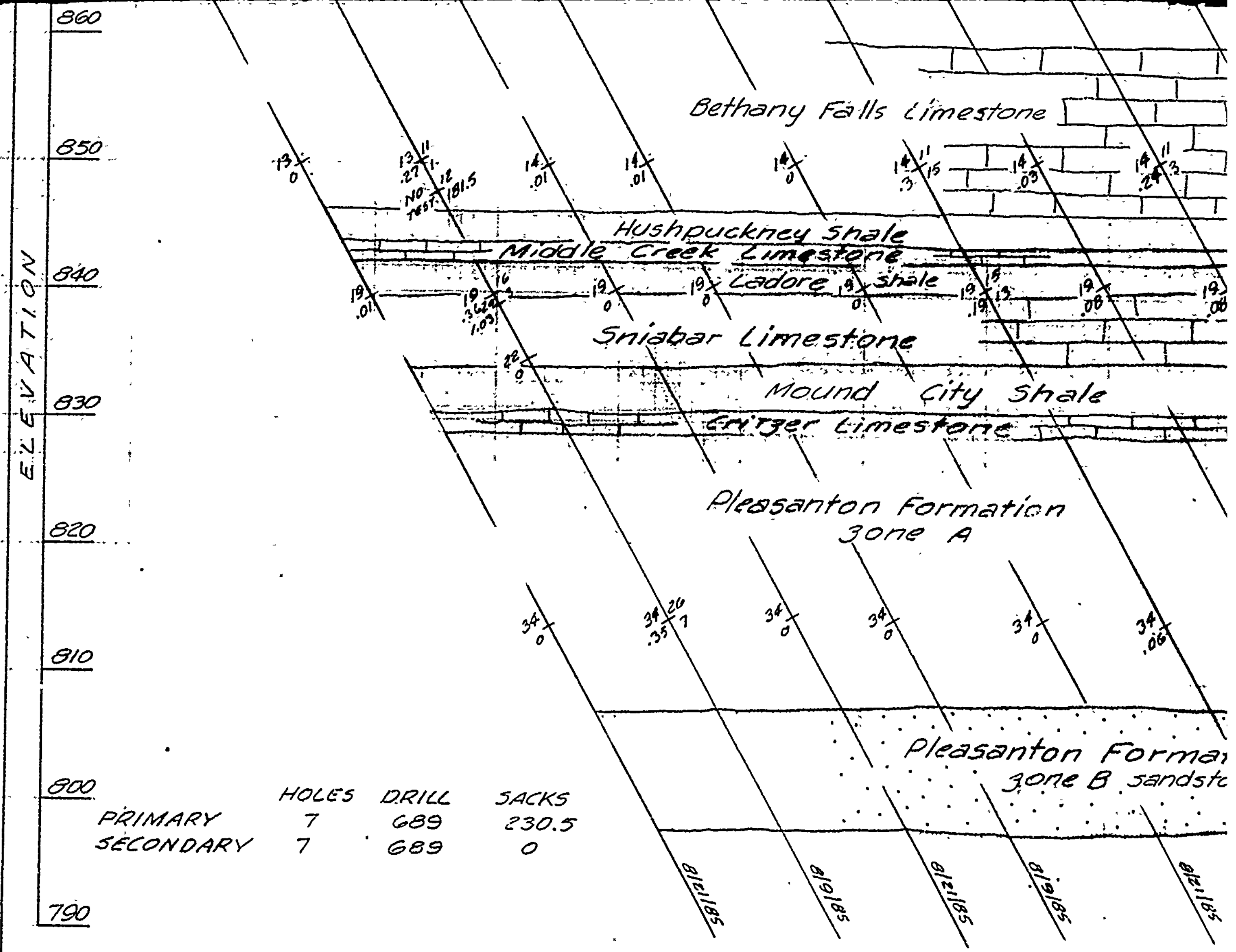
AM

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

GROUT CURTAIN PROFILE
RIGHT ABUTMENT LINE C
STA. 66+30 TO STA. 65+00

Designed by:
Drawn by: V.A.
Checked by: C.H.



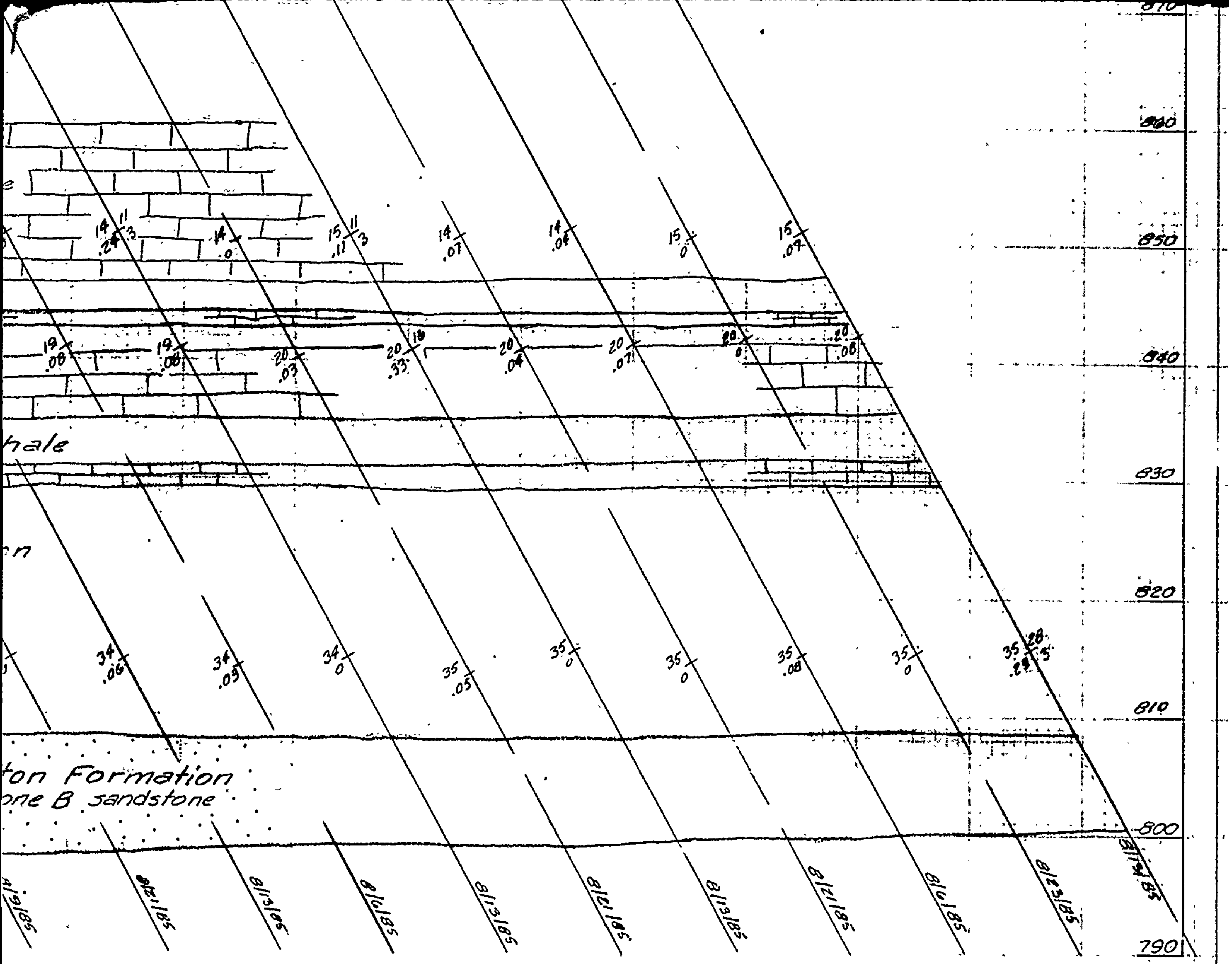
	HOLES	DRILL	SACKS
PRIMARY	7	689	230.5
SECONDARY	7	689	0

BLUE SPRINGS LAKE GROUT CURTAIN PPOFILE

LINE C ON DAM AXIS STA 66+30

LOOKING DOWNSTREAM

0 10
SCALE IN FEET



PPOFILE RIGHT ABUTMENT

STA 66+30 TO STA 65+00

EAM

For legend see Plate 44

U. S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS KANSAS CITY, MISSOURI	
Designed by:	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by: V.A.	GROUT CURTAIN PROFILE RIGHT ABUTMENT LINE C STA. 66+30 TO STA. 65+00
Checked by: C.H.	Scale: AS SHOWN · Sheet number: 74
Submitted by:	Date: JUNE 1990 · File No.: RBL-2-1294

PLATE NO. 74

LEFT ABUTMENT

SACKS OF CEMENT INJECTED

GEOLOGIC UNIT	LINE A	LINE B	LINE C	TOTAL
BETHANY FALLS LIMESTONE	1483.4			1483.4
HUSHPUCKNEY SHALE		29.5	16.0	45.5
MIDDLE CREEK LIMESTONE	0.2	11.0	8.5	19.7
LADORE SHALE	2.6			2.6
SNIABAR LIMESTONE	187.8	2.0	142.0	331.8
MOUND CITY SHALE	282.3	19.8	17.5	319.6
CRITZER LIMESTONE				
PLEASANTON ZONE A	181.7	57.0	32.0	270.7
ZONE B	0.4	2.0		2.4
ZONE C	12.0	1.0		13.0
	2150.4	122.3	216.0	2488.7

LEFT ABUTMENT

	HOLES		DRILL	SACKS
LINE A	P-58		4410	1069.8
	S-58		4415	1030.5
	T-6		436	1.6
	EXP-2		170	48.5
		124	9431'	2150.4
LINE B	P-59		4365	77.3
	S-58		4308	38.5
	T-2		179	6.5
		119	8852'	122.3
LINE C	P-59		4477	48.5
	S-58		4363	145.0
	T-3		213	0
	EXP-1		75	22.5
		121	9128'	216.0
TOTALS		364	27,411'	2488.7

BLUE SPRINGS DAM SUMMARY OF GROUTING

MENT

TOTAL	%
JECTED	
1483.4	59.6
45.5	1.8
19.7	0.8
2.6	
331.8	13.3
319.6	12.8
270.7	10.8
2.4	
13.0	
2488.7	

RIGHT ABUTMENT

LINE A	LINE B	LINE C	TOTAL	%
SACKS OF CEMENT INJECTED				
		1118.0	1118.0	38.8
		55.5	55.5	1.9
	1.9	140.5	142.4	4.9
0.6	0.3	660.0	660.9	22.9
3.0		341.5	344.5	12.0
40.2		200.0	240.2	8.3
		7.5	7.5	
33.3	16.6	140.2	190.1	6.6
47.7	26.1	0.1	73.9	2.6
41.74	1.0	2.3	45.04	1.6
166.54	45.9	2665.6	2878.04	

T
SACKS
1069.8
1030.5
1.6
48.5
2150.4
77.3
38.5
6.5
122.3
48.5
145.0
0
22.5
216.0
2488.7

RIGHT ABUTMENT	HOLES	DRILL	SACKS
LINE A	P - 35	2800	164.5
	S - 30	2491	1.8
	T - 3	82	0.2
	Q - 1	21	.04
	EXP - 2	58	0
	71	5452'	166.54
LINE B	P - 34	2752	45.6
	S - 31	2566	0.3
	65	5318'	45.9
LINE C	P - 75	6050	2147.1
	S - 72	5962	487.0
	T - 14	1038	31.5
	161	13,050'	2665.6
TOTALS	297	23,820'	2,878.04

GROUTING

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:

Drawn by: V.A.

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

SUMMARY OF GROUTING

LADORE SHALE	2.6			[illegible]	
SNIABAR LIMESTONE	187.8	2.0	142.0	331.8	13.
MOUND CITY SHALE	282.3	19.8	17.5	319.6	12.
CRITZER LIMESTONE					
PLEASANTON ZONE A	181.7	57.0	32.0	270.7	10.
ZONE B	0.4	2.0		2.4	
ZONE C	12.0	1.0		13.0	
	2150.4	122.3	216.0	2488.7	

LEFT ABUTMENT	HOLES	DRILL	SACKS
LINE A	P-58	4410	1069.8
	S-58	4415	1030.5
	T-6	436	1.6
	EXP-2	170	48.5
	124	9431'	2150.4
LINE B	P-59	4365	77.3
	S-58	4308	38.5
	T-2	179	6.5
	119	8852'	122.3
LINE C	P-59	4477	48.5
	S-58	4363	145.0
	T-3	213	0
	EXP-1	75	22.5
	121	9128'	216.0
TOTALS	364	27,411'	2488.7

BLUE SPRINGS DAM SUMMARY OF GROUTING

19.7	0.8
2.6	
331.8	13.3
319.6	12.8
270.7	10.8
2.4	
13.0	
2488.7	

	1.9	140.5	142.4	4.9
0.6	0.3	660.0	660.9	22.9
3.0		341.5	344.5	12.0
40.2		200.0	240.2	8.3
		7.5	7.5	
33.3	16.6	140.2	190.1	6.6
47.7	26.1	0.1	73.9	2.6
41.74	1.0	2.3	45.04	1.6
166.54	45.9	2665.6	2878.04	

SACKS
1069.8
1030.5
1.6
48.5
2150.4
77.3
38.5
6.5
122.3
48.5
145.0
0
22.5
210.0
2468.7

RIGHT ABUTMENT

	HOLES	DRILL	SACKS
LINE A	P - 35	2800	164.5
	S - 30	2491	1.8
	T - 3	82	0.2
	Q - 1	21	.04
	EXP - 2	58	0
	71	5452'	166.54
LINE B	P - 34	2752	45.6
	S - 31	2566	0.3
	65	5318'	45.9
LINE C	P - 75	6050	2147.1
	S - 72	5962	487.0
	T - 14	1038	31.5
	161	13,050'	2665.6
TOTALS	297	23,820'	2,878.04

ROUTING

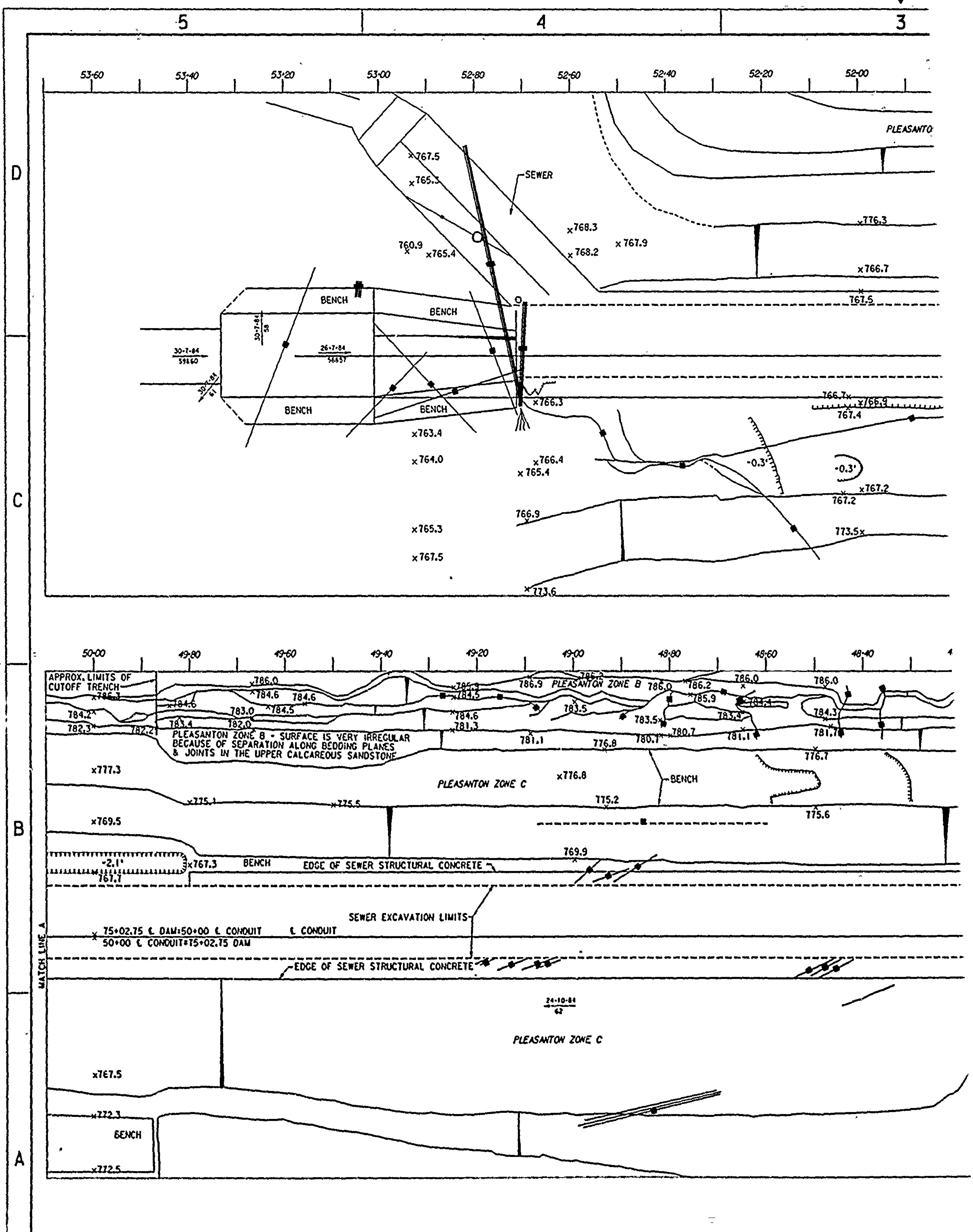
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

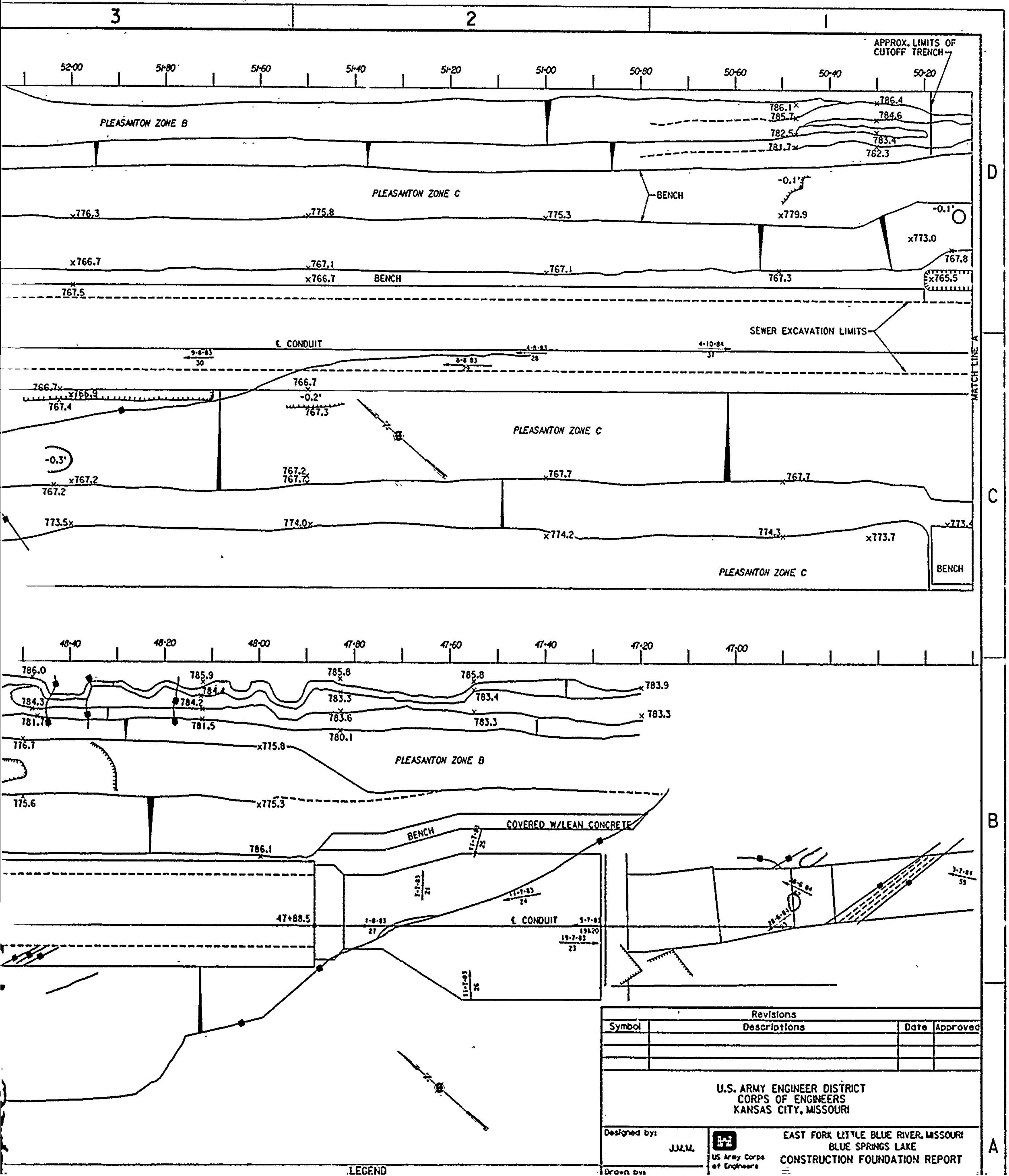
SUMMARY OF GROUTING

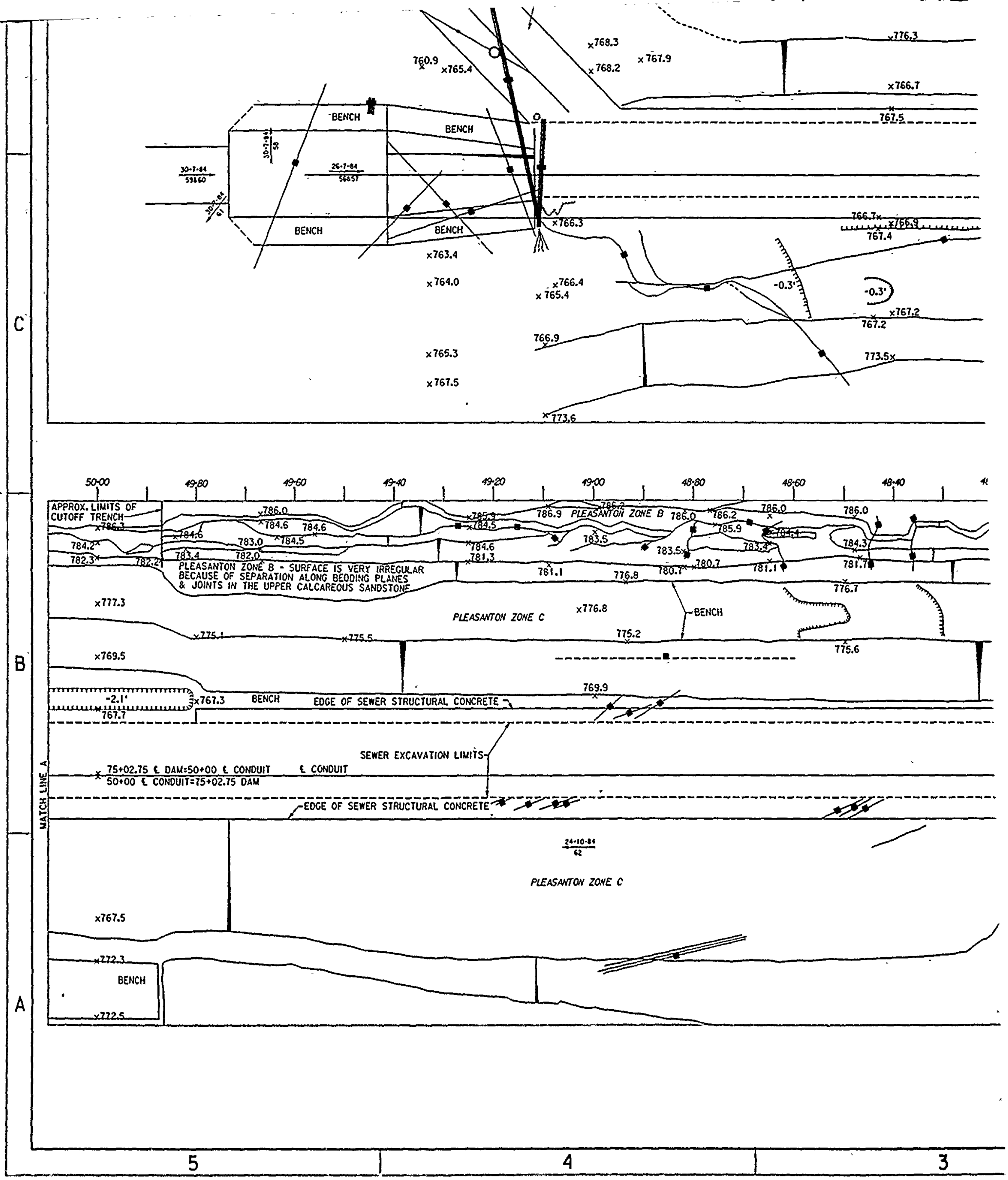
Designed by:	
Drawn by:	V.A.
Checked by:	C.H.
Submitted by:	
Scale:	AS SHOWN
Date:	JUNE 1990
Dwg. No.:	
Sheet Number:	75
File No.:	RBL-2-1295

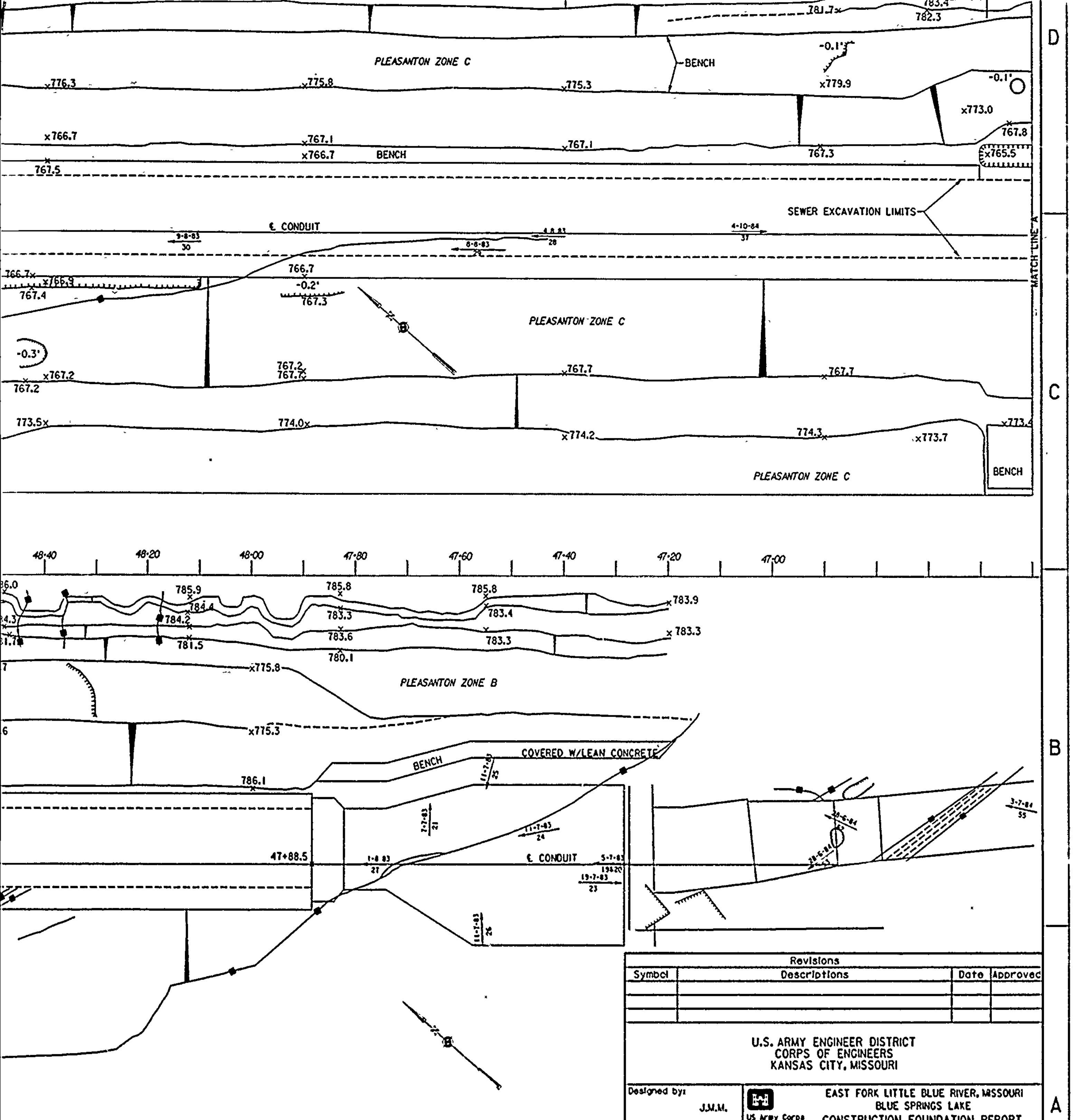
PLATE NO. 75


5
4
3
D
C
B
A
53+60
53+40
53+20
53+00
52+80
52+60
52+40
52+20
52+00
PLEASANTO
SEWER
BENCH
50+00
49+80
49+60
49+40
49+20
49+00
48+80
48+60
48+40
APPROX. LIMITS OF CUTOFF TRENCH
PLEASANTON ZONE B
PLEASANTON ZONE B - SURFACE IS VERY IRREGULAR BECAUSE OF SEPARATION ALONG BEDDING PLANES & JOINTS IN THE UPPER CALCAREOUS SANDSTONE
PLEASANTON ZONE C
EDGE OF SEWER STRUCTURAL CONCRETE
SEWER EXCAVATION LIMITS
75+02.75 ℄ DAM=50+00 ℄ CONDUIT
℄ CONDUIT
50+00 ℄ CONDUIT=75+02.75 DAM
MATCH LINE A

VALUE ENGINEERING PAYS




BENCH
BENCH
BENCH
BENCH
30-7-84
59&60
26-7-84
56&57
-0.3'
-0.3'
50+00
49+80
49+60
49+40
49+20
49+00
48+80
48+60
48+40
APPROX. LIMITS OF CUTOFF TRENCH
PLEASANTON ZONE B
PLEASANTON ZONE B - SURFACE IS VERY IRREGULAR BECAUSE OF SEPARATION ALONG BEDDING PLANES & JOINTS IN THE UPPER CALCAREOUS SANDSTONE
PLEASANTON ZONE C
BENCH
-2.1'
BENCH
EDGE OF SEWER STRUCTURAL CONCRETE
SEWER EXCAVATION LIMITS
75+02.75 ℄ DAM=50+00 ℄ CONDUIT
℄ CONDUIT
50+00 ℄ CONDUIT=75+02.75 DAM
EDGE OF SEWER STRUCTURAL CONCRETE
MATCH LINE A
24-10-84
62
PLEASANTON ZONE C
BENCH
C
B
A
5
4
3



LEGEND

- VERTICAL JOINTS
- JOINTS SHOWING DEGREE & DIRECTION OF DIP
- CONTACT BETWEEN ROCK UNITS
- 24-10-84 / 62 DIRECTION, DATE AND NUMBER OF PHOTO

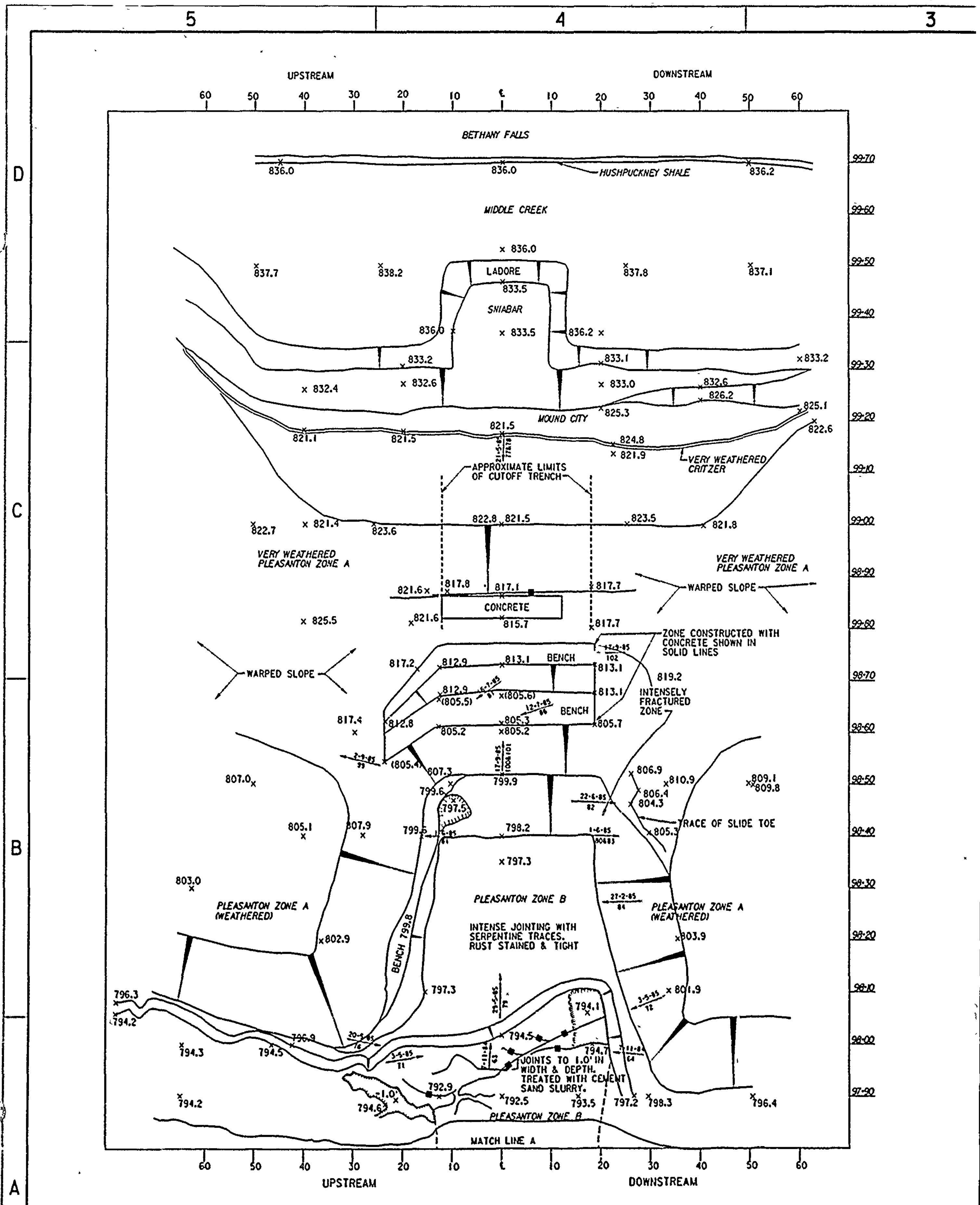
Symbol	Descriptions	Date	Approved

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: J.M.M.	US Army Corps of Engineers — EAST FORK LITTLE BLUE RIVER, MISSOURI / BLUE SPRINGS LAKE / CONSTRUCTION FOUNDATION REPORT
Drawn by: R.A.A.	OUTLET WORKS FOUNDATION MAP STA 47+00 TO STA 53+50
Checked by: J.M.M.	Scale: AS SHOWN · Sheet number: 76 · Plot Scale: S=.0833
Submitted by: X	Date: X · Design File: (100,50)BSROCKF · Dwg. No.: · File No.: RBL-2-1296

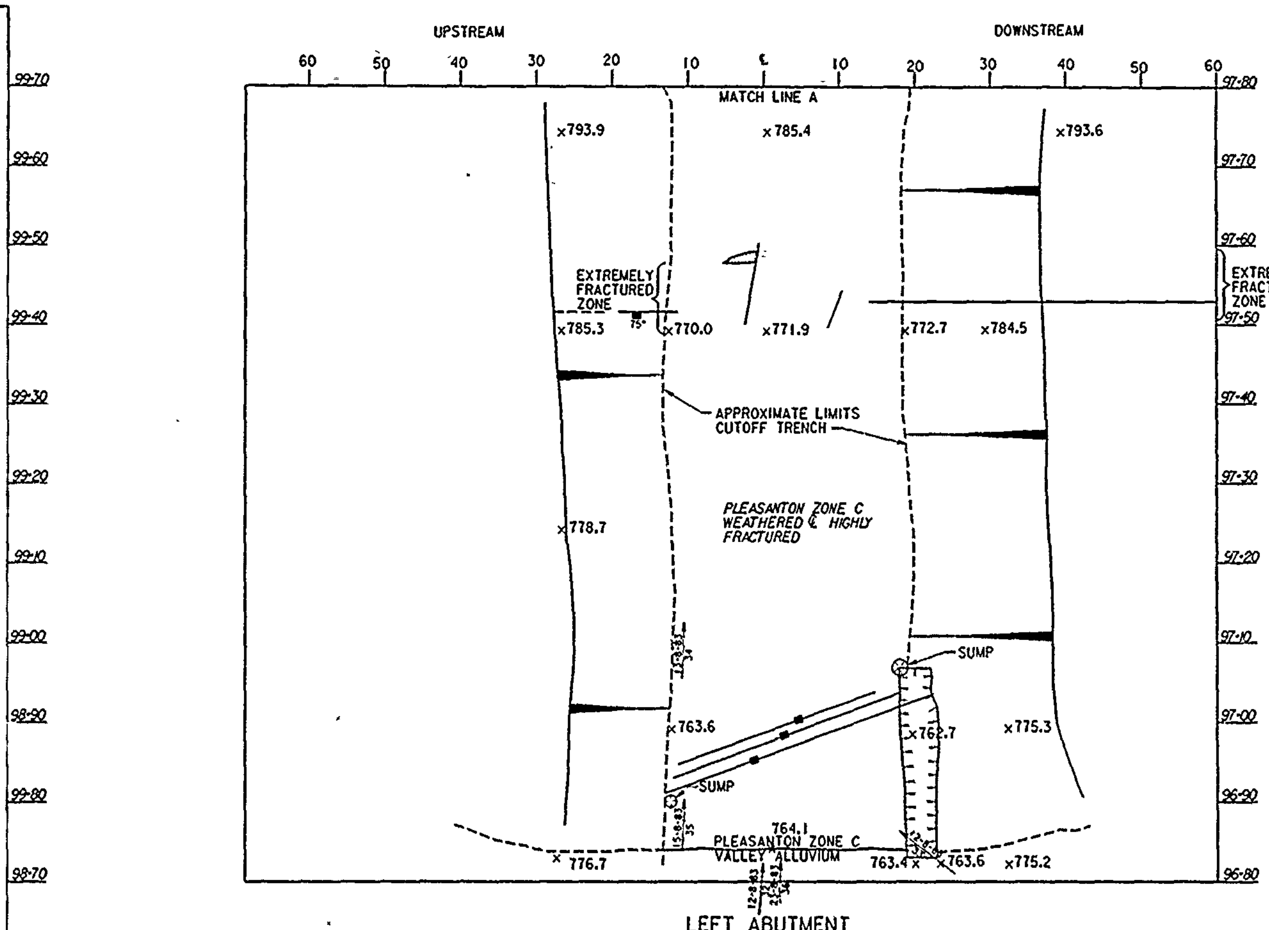
3 | 2 | 1

PLATE NO. 76



LEFT ABUTMENT

VALUE ENGINEERING PAYS



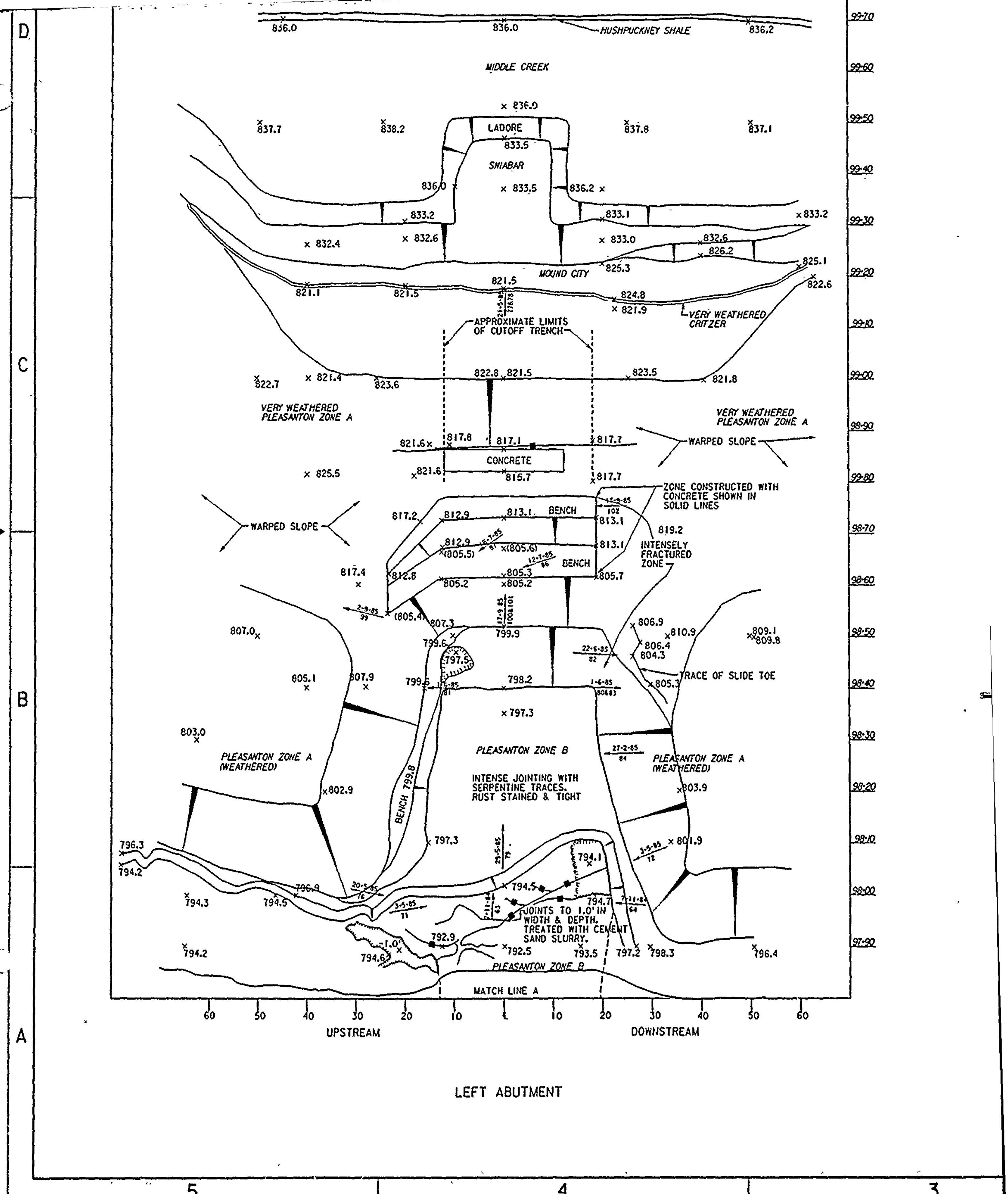
LEGEND

- VERTICAL JOINTS
- JOINTS SHOWING DEGREE & DIRECTION OF DIP
- CONTACT BETWEEN ROCK UNITS
- DIRECTION, DATE AND NUMBER OF PHOTO

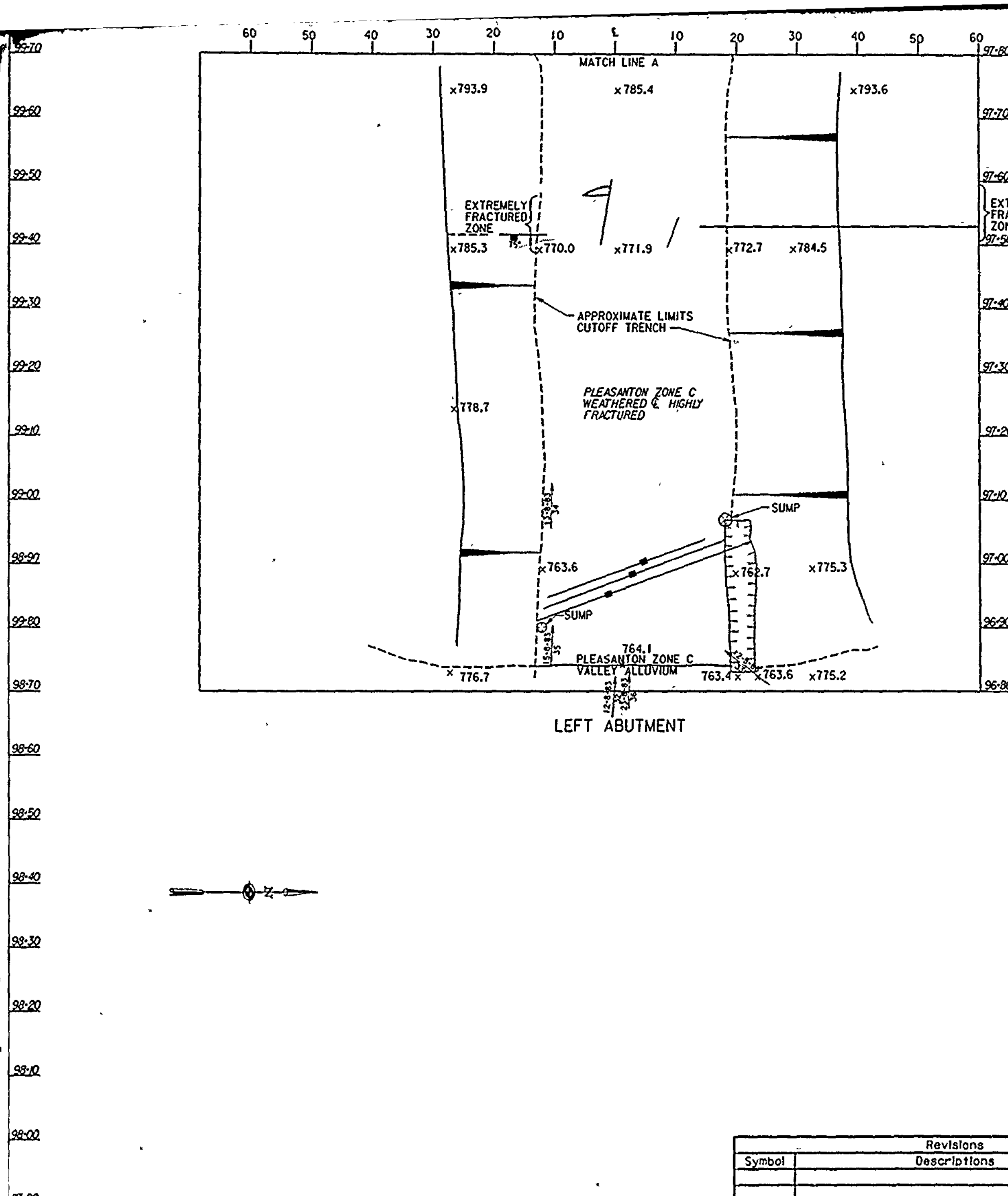
Revisions			
Symbol	Descriptions	Date	Approved

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: J.M.M.	US Army Corps of Engineers	EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT	
Drawn by: R.A.A.	LEFT ABUTMENT CUTOFF TRENCH STA 99+70 TO STA 96+80		
Checked by: J.M.M.	Scale: AS SHOWN	Sheet number: 77	Plot Scale: S=.0833
Submitted by: X	Date: X		Design File: [100,30]BSCF77



LEFT ABUTMENT



LEFT ABUTMENT

LEGEND

- VERTICAL JOINTS
- JOINTS SHOWING DEGREE & DIRECTION OF DIP
- CONTACT BETWEEN ROCK UNITS
- 27-2-85 / 84 DIRECTION, DATE AND NUMBER OF PHOTO

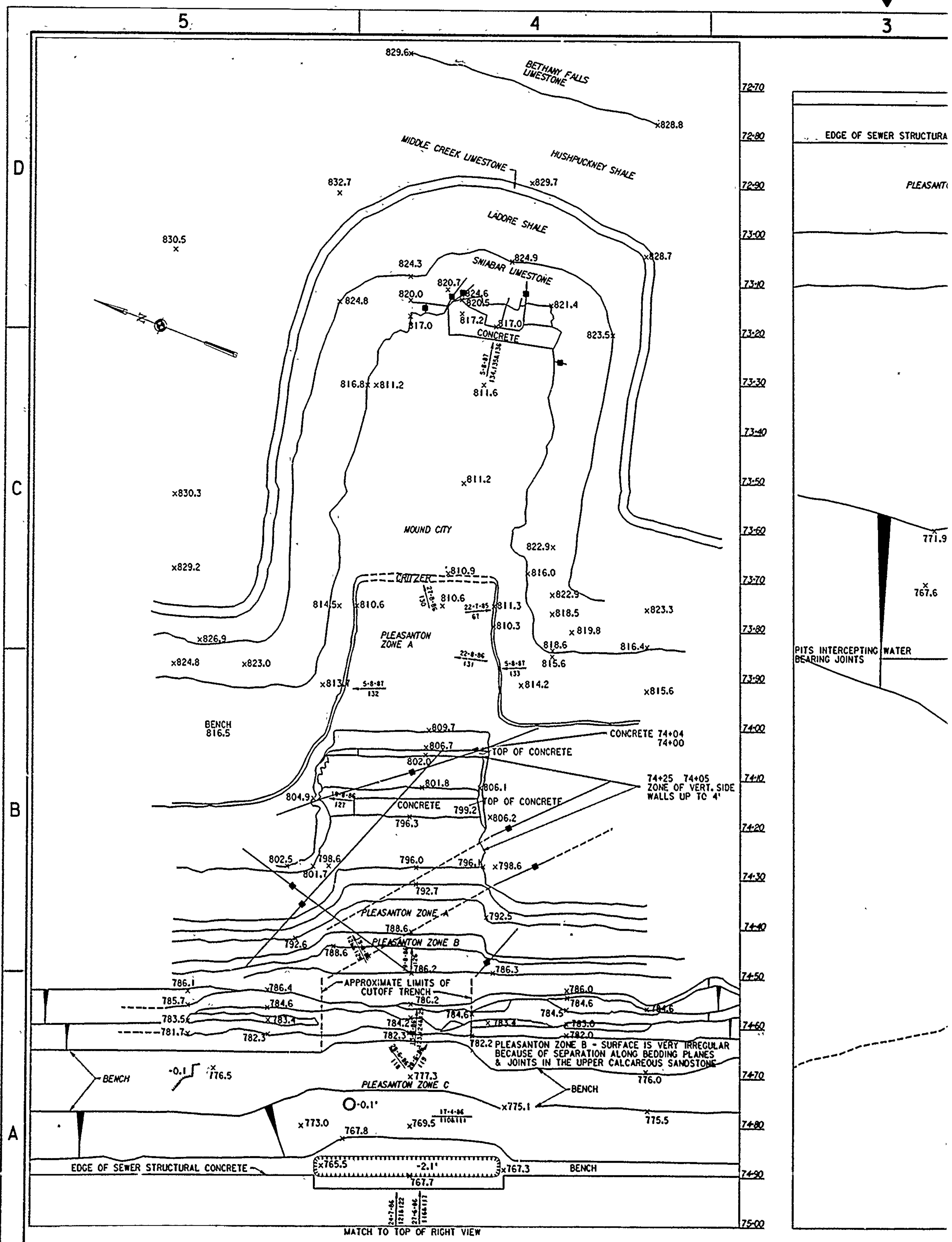
Revisions			
Symbol	Descriptions	Date	Approved

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: J.M.M.	US Army Corps of Engineers — EAST FORK LITTLE BLUE RIVER, MISSOURI / BLUE SPRINGS LAKE / CONSTRUCTION FOUNDATION REPORT
Drawn by: R.A.A.	LEFT ABUTMENT CUTOFF TRENCH STA 99+70 TO STA 96+80
Checked by: J.M.M.	Scale: AS SHOWN; Sheet number: 77; Plot Scale: S=.0833
Submitted by: X	Date: X; Design File: [100,30]BSCF77
	Dwg. No.: ; File No.: RBL-2-1297

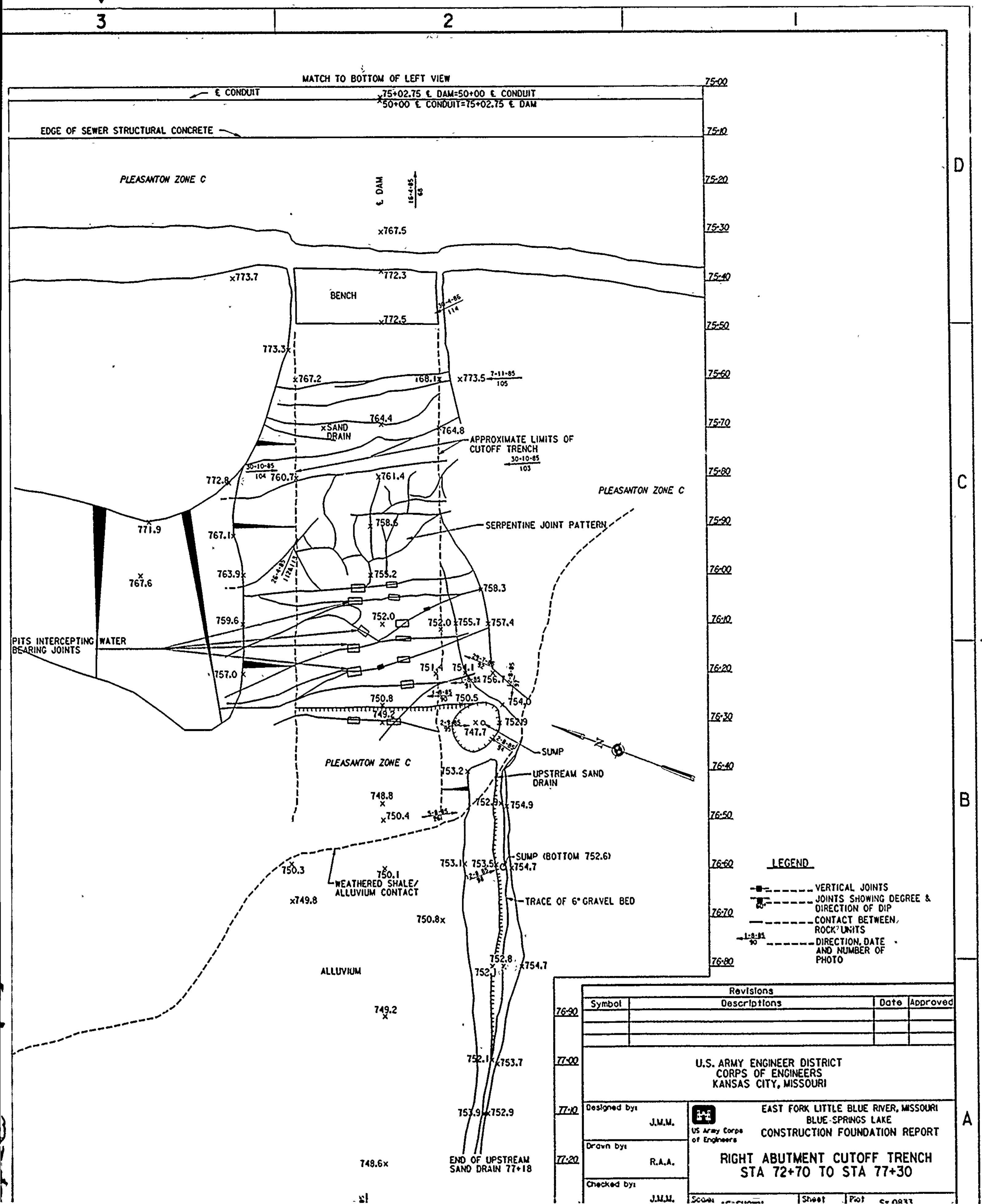
3 2 1

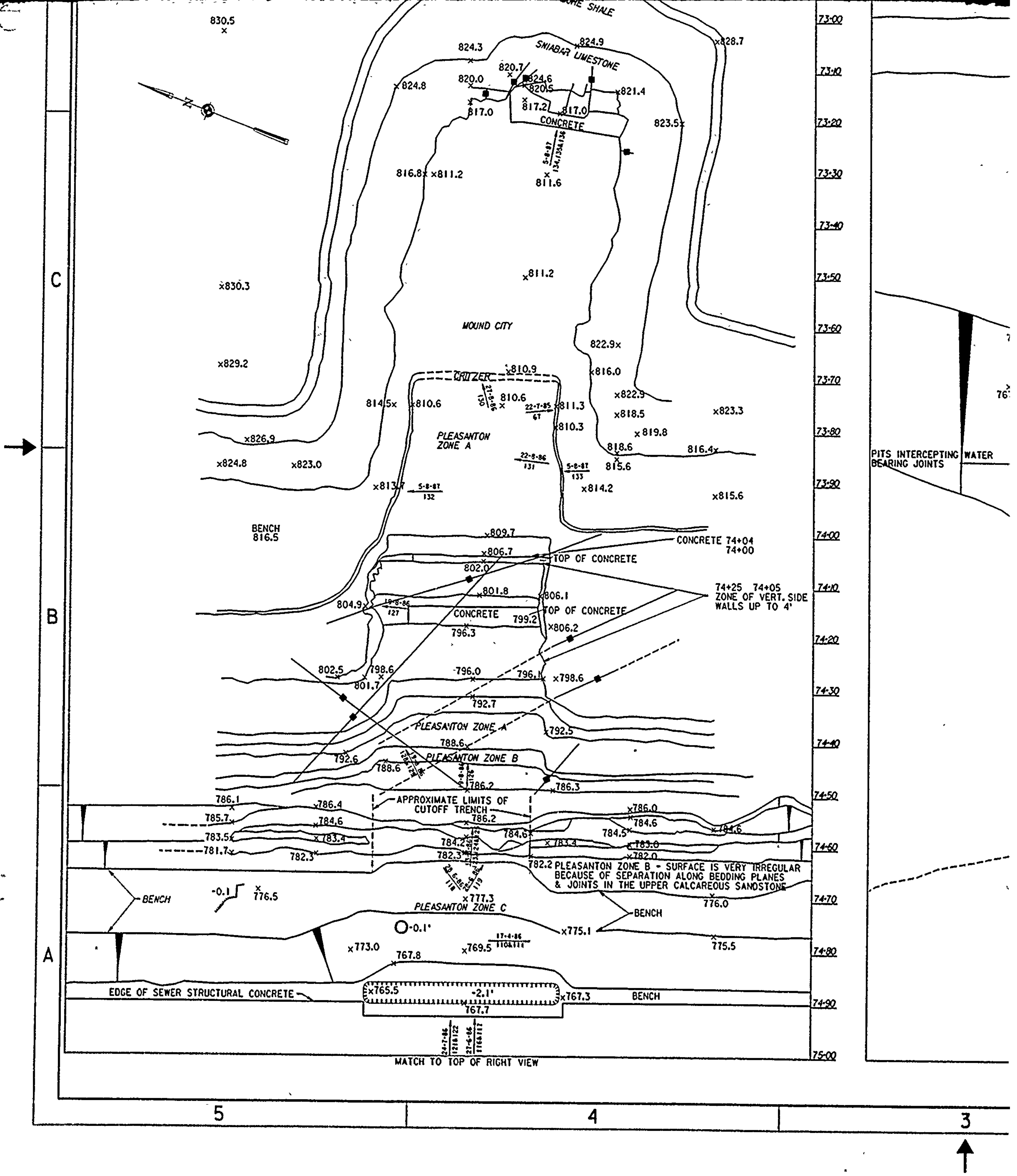
PLATE NO. 77



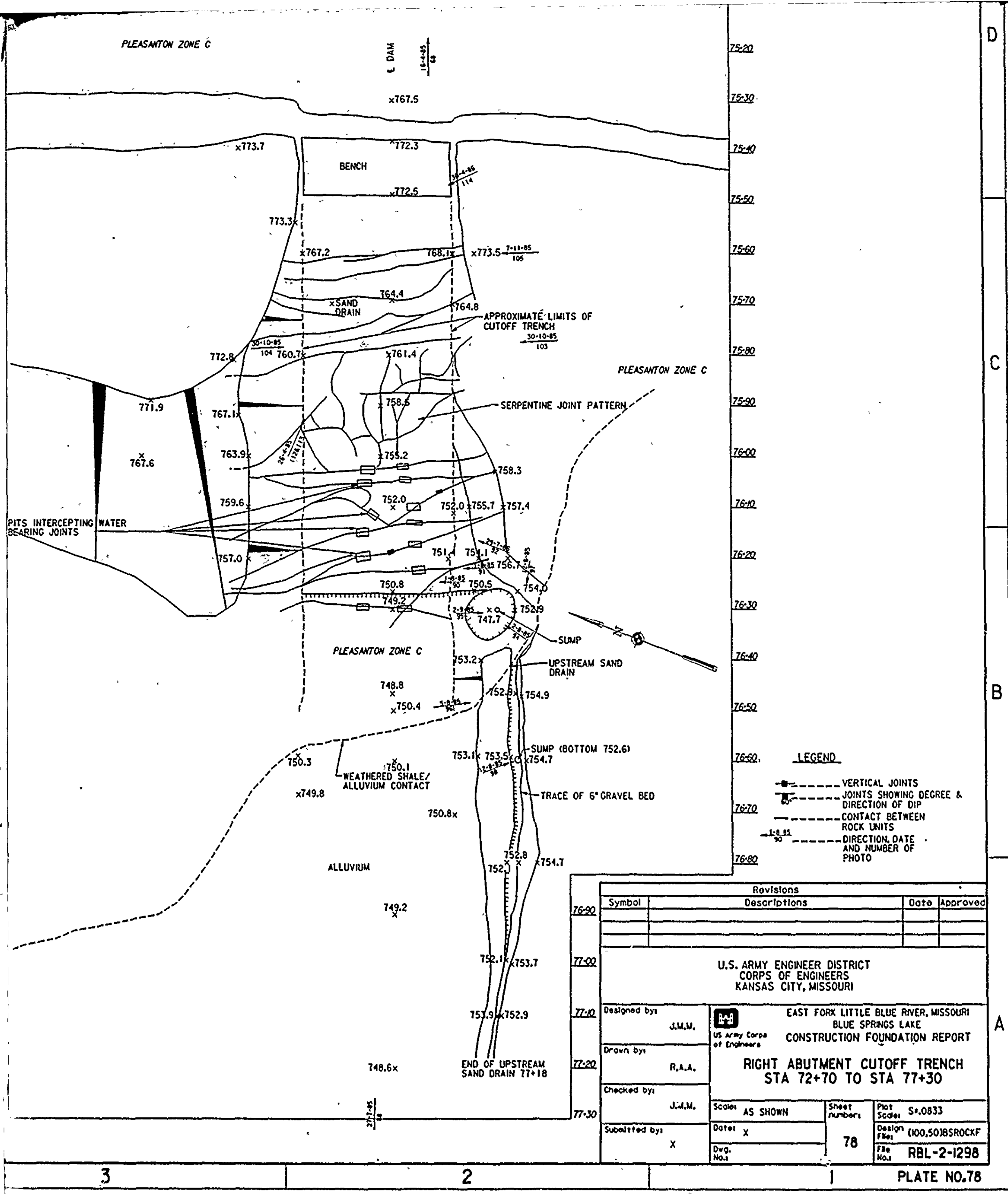
5
4
3
D
C
B
A
BETHANY FALLS LIMESTONE
MIDDLE CREEK LIMESTONE
HUSHPUCKNEY SHALE
LADORE SHALE
SNIABAR LIMESTONE
CONCRETE
MOUND CITY
CRITZER
PLEASANTON ZONE A
BENCH 816.5
CONCRETE 74+04 74+00
TOP OF CONCRETE
74+25 74+05 ZONE OF VERT. SIDE WALLS UP TO 4'
PLEASANTON ZONE A
PLEASANTON ZONE B
APPROXIMATE LIMITS OF CUTOFF TRENCH
PLEASANTON ZONE B - SURFACE IS VERY IRREGULAR BECAUSE OF SEPARATION ALONG BEDDING PLANES & JOINTS IN THE UPPER CALCAREOUS SANDSTONE
BENCH
PLEASANTON ZONE C
EDGE OF SEWER STRUCTURAL CONCRETE
MATCH TO TOP OF RIGHT VIEW
EDGE OF SEWER STRUCTURA
PLEASANT
PITS INTERCEPTING WATER BEARING JOINTS
72+70
72+80
72+90
73+00
73+10
73+20
73+30
73+40
73+50
73+60
73+70
73+80
73+90
74+00
74+10
74+20
74+30
74+40
74+50
74+60
74+70
74+80
74+90
75+00

VALUE ENGINEERING PAYS

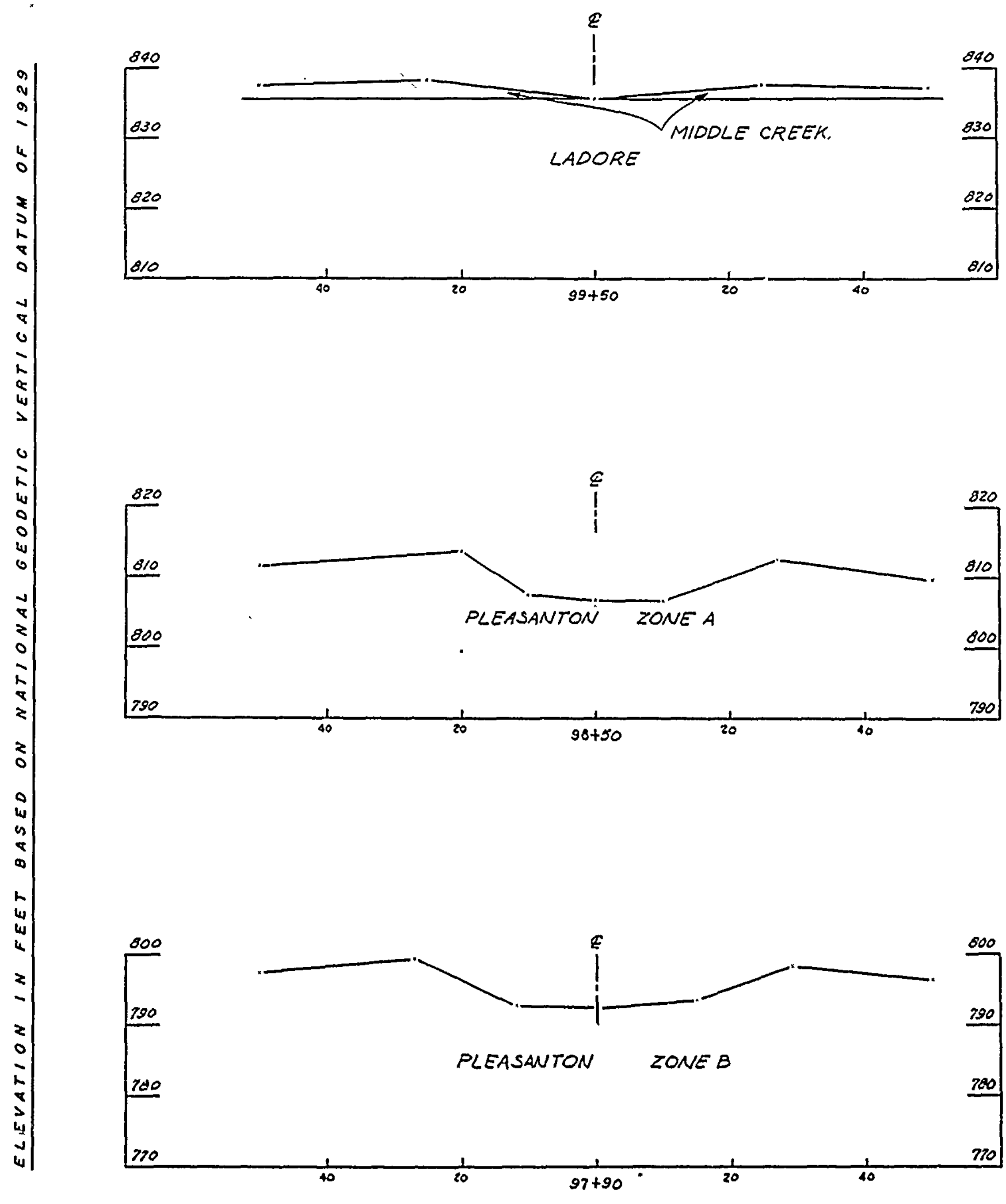


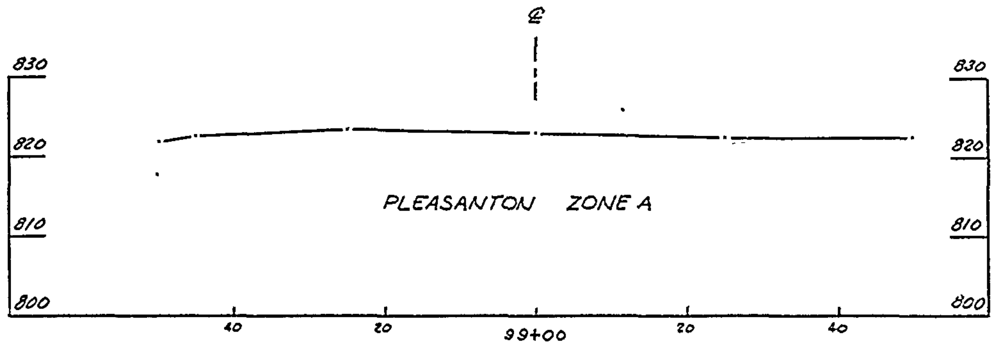


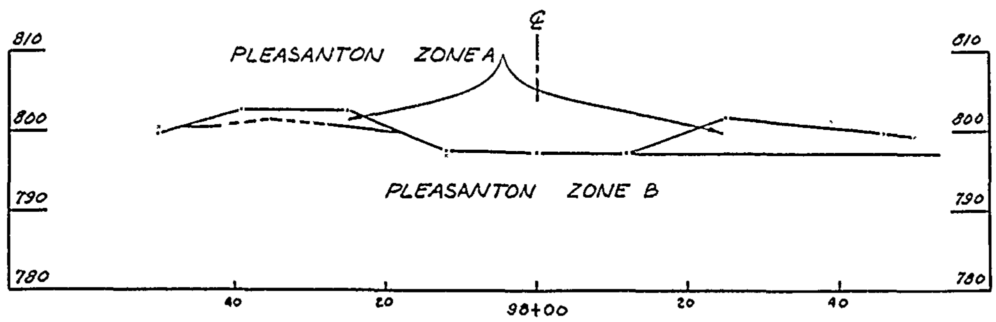
SHALE
SNIABAR LIMESTONE
CONCRETE
MOUND CITY
CRITZER
PLEASANTON ZONE A
BENCH 816.5
CONCRETE 74+04 74+00
TOP OF CONCRETE
74+25 74+05 ZONE OF VERT. SIDE WALLS UP TO 4'
CONCRETE
PLEASANTON ZONE A
PLEASANTON ZONE B
APPROXIMATE LIMITS OF CUTOFF TRENCH
PLEASANTON ZONE B - SURFACE IS VERY IRREGULAR BECAUSE OF SEPARATION ALONG BEDDING PLANES & JOINTS IN THE UPPER CALCAREOUS SANDSTONE
BENCH
PLEASANTON ZONE C
EDGE OF SEWER STRUCTURAL CONCRETE
BENCH
MATCH TO TOP OF RIGHT VIEW
PITS INTERCEPTING WATER BEARING JOINTS
C
B
A
5
4
3



PLEASANTON ZONE C
℄ DAM
x767.5
x773.7
x772.3
BENCH
x772.5
773.3
x767.2
768.1
x773.5
764.4
SAND DRAIN
764.8
APPROXIMATE LIMITS OF CUTOFF TRENCH
772.8
760.7
761.4
PLEASANTON ZONE C
771.9
767.1
758.6
SERPENTINE JOINT PATTERN
767.6
763.9
755.2
758.3
759.6
752.0
752.0
755.7
757.4
PITS INTERCEPTING WATER BEARING JOINTS
757.0
751.4
754.1
756.7
750.8
750.5
754.0
749.2
747.7
752.9
SUMP
PLEASANTON ZONE C
753.2
UPSTREAM SAND DRAIN
748.8
752.5
754.9
750.4
750.3
750.1
WEATHERED SHALE/ ALLUVIUM CONTACT
753.1
753.5
754.7
SUMP (BOTTOM 752.6)
x749.8
TRACE OF 6" GRAVEL BED
750.8x
ALLUVIUM
752.8
752
754.7
749.2
752.1
753.7
753.9
752.9
748.6x
END OF UPSTREAM SAND DRAIN 77+18
75+20
75+30
75+40
75+50
75+60
75+70
75+80
75+90
76+00
76+10
76+20
76+30
76+40
76+50
76+60
76+70
76+80
76+90
77+00
77+10
77+20
77+30
LEGEND
VERTICAL JOINTS
JOINTS SHOWING DEGREE & DIRECTION OF DIP
CONTACT BETWEEN ROCK UNITS
DIRECTION, DATE AND NUMBER OF PHOTO
Revisions
Symbol
Descriptions
Date
Approved
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI
Designed by: J.M.M.
Drawn by: R.A.A.
Checked by: J.J.M.
Submitted by: X
US Army Corps of Engineers
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT
RIGHT ABUTMENT CUTOFF TRENCH
STA 72+70 TO STA 77+30
Scale: AS SHOWN
Date: X
Dwg. No.:
Sheet number: 78
Plot Scale: S=.0833
Design File: (100,50)BSROCKF
File No.: RBL-2-1298
D
C
B
A
3
2
1
PLATE NO.78


ELEVATION IN FEET BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929
℄
840
830
820
810
MIDDLE CREEK.
LADORE
40
20
99+50
20
40
℄
820
810
800
790
PLEASANTON ZONE A
40
20
98+50
20
40
℄
800
790
780
770
PLEASANTON ZONE B
40
20
97+90
20
40





Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

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Drawn by:

Checked by:

US Army Corps of Engineers

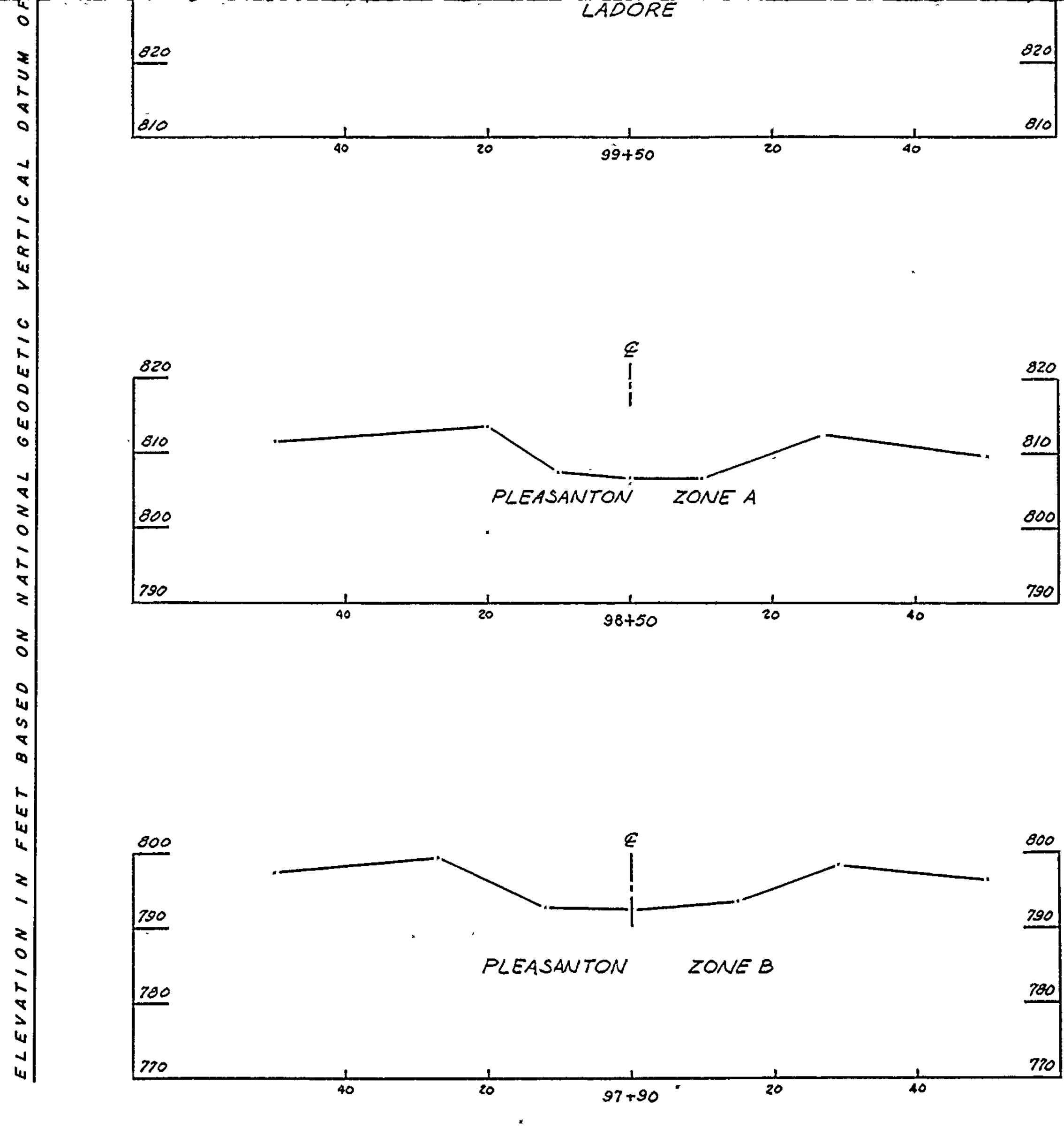
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

CUTOFF TRENCH
FINAL CROSS SECTIONS
STA. 99+50 TO STA. 97+90

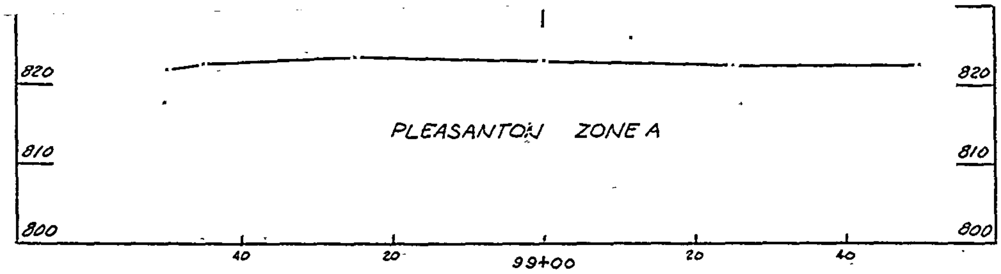
C

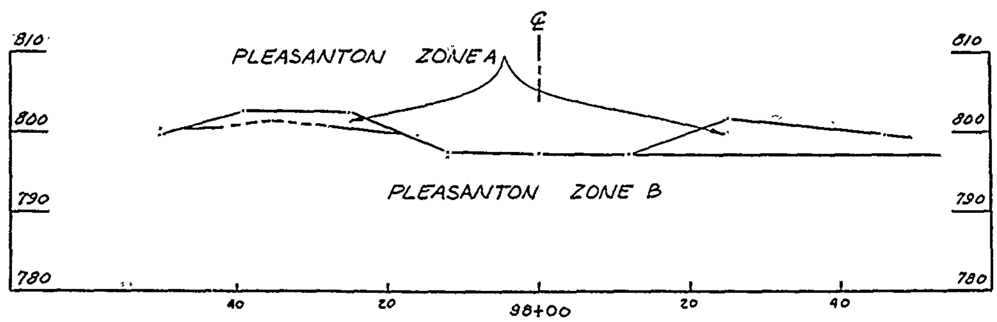
B

A


ELEVATION IN FEET BASED ON NATIONAL GEODETIC VERTICAL DATUM OF
LADORE
820
810
40
20
99+50
20
40
820
810
℄
820
810
800
790
PLEASANTON ZONE A
40
20
98+50
20
40
820
810
800
790
℄
800
790
780
770
PLEASANTON ZONE B
40
20
97+90
20
40
800
790
780
770

5 4 3





Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:
Drawn by:
Checked by:
Submitted by:

US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

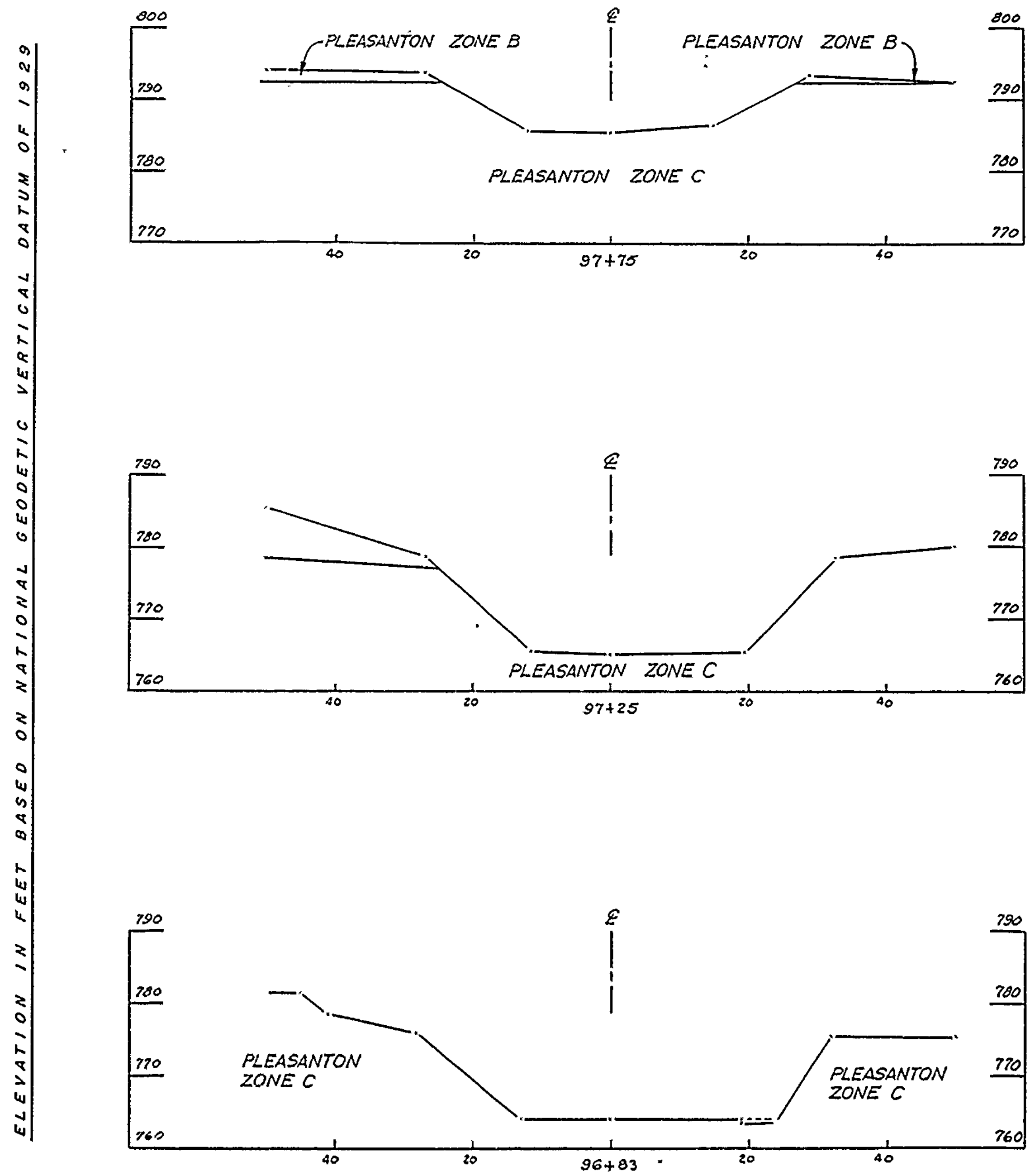
CUTOFF TRENCH
FINAL CROSS SECTIONS
STA. 99+50 TO STA. 97+90

Scale: AS SHOWN	Sheet number: 79		
Date: JUNE 1990			
Dwg. No.:		File No.: RBL-2-1299	

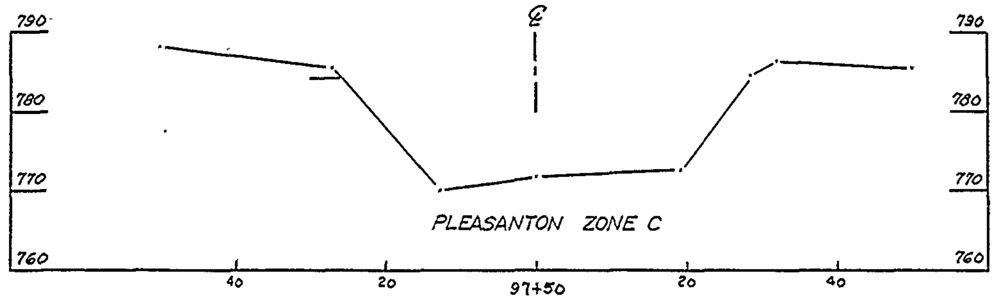
3 | 2 | 1 | PLATE NO. 79

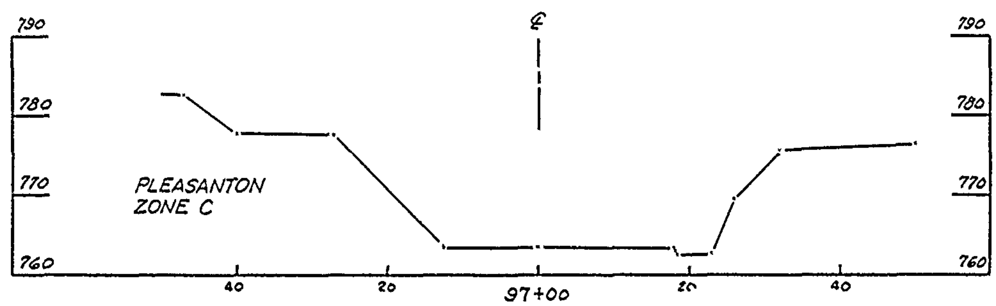
A B C D

5	4	3



ELEVATION IN FEET BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929
PLEASANTON ZONE B
PLEASANTON ZONE B
PLEASANTON ZONE C
800
790
780
770
40
20
97+75
PLEASANTON ZONE C
790
780
770
760
97+25
PLEASANTON ZONE C
PLEASANTON ZONE C
96+83

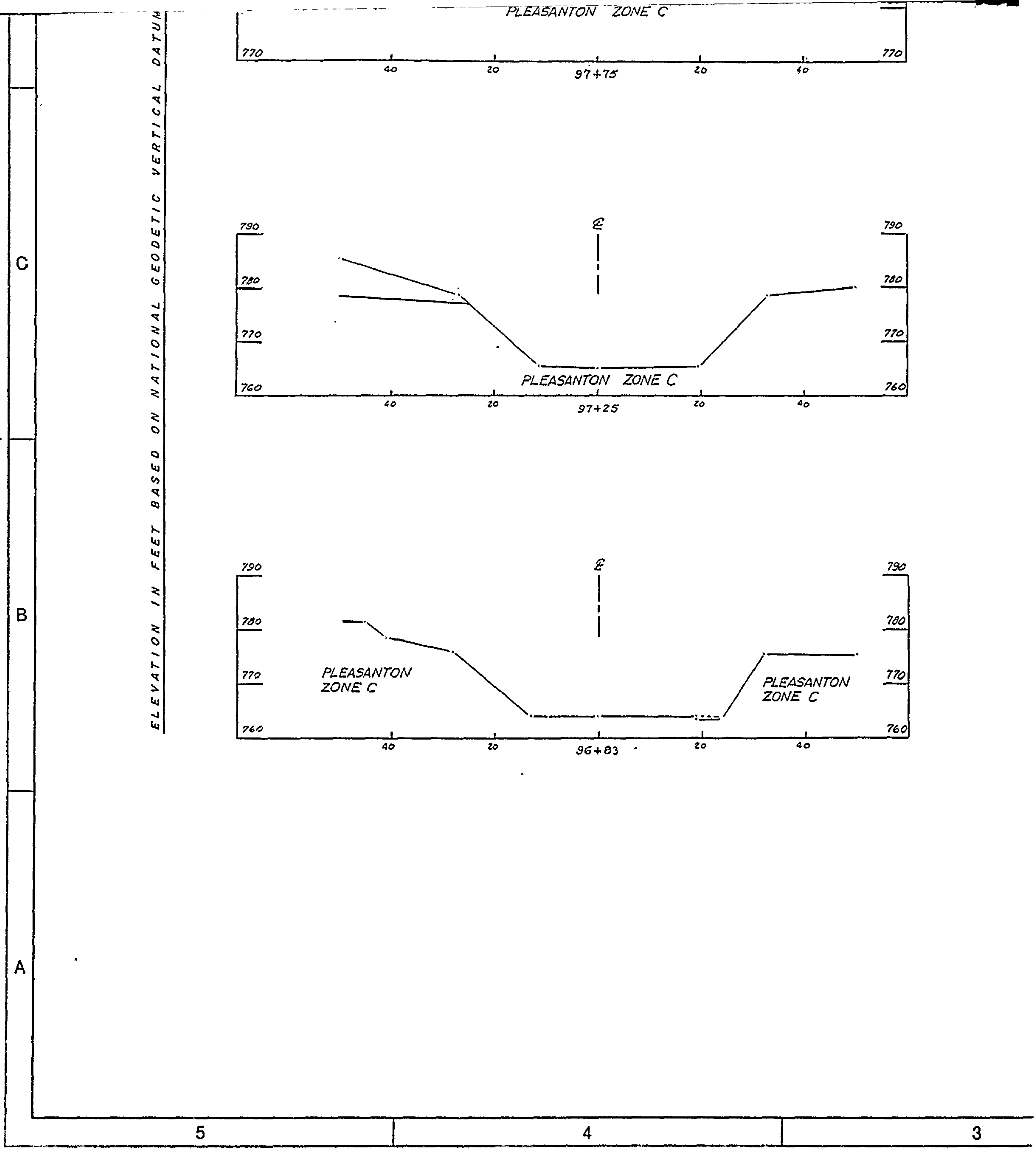




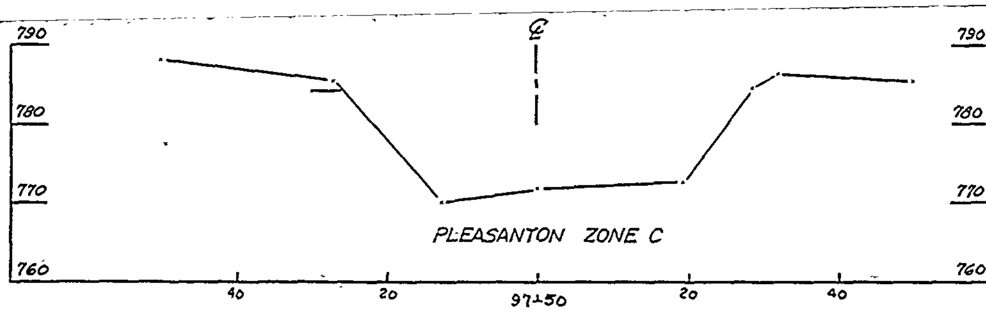
Revisions			
Symbol	Descriptions	Date	Approved

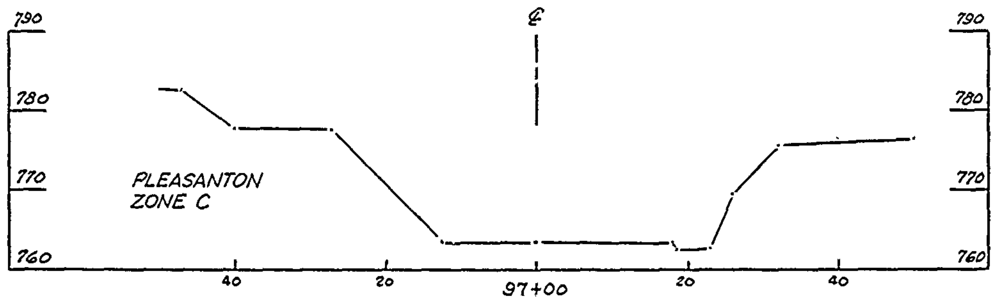
U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:	US Army Corps of Engineers — EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by:	CUTOFF TRENCH FINAL CROSS SECTIONS STA. 97+75 TO STA. 96+83
Checked by:	Scale: AS SHOWN — Sheet number: 80
Submitted by:	Date: JUNE 1990 — Dwg. No.: — File No.: RBL-2-1300



ELEVATION IN FEET BASED ON NATIONAL GEODETIC VERTICAL DATUM
PLEASANTON ZONE C
770
40
20
97+75
20
40
770
790
780
770
760
PLEASANTON ZONE C
40
20
97+25
20
40
790
780
770
760
790
780
770
760
PLEASANTON
ZONE C
PLEASANTON
ZONE C
40
20
96+83
20
40
C
B
A
5
4
3



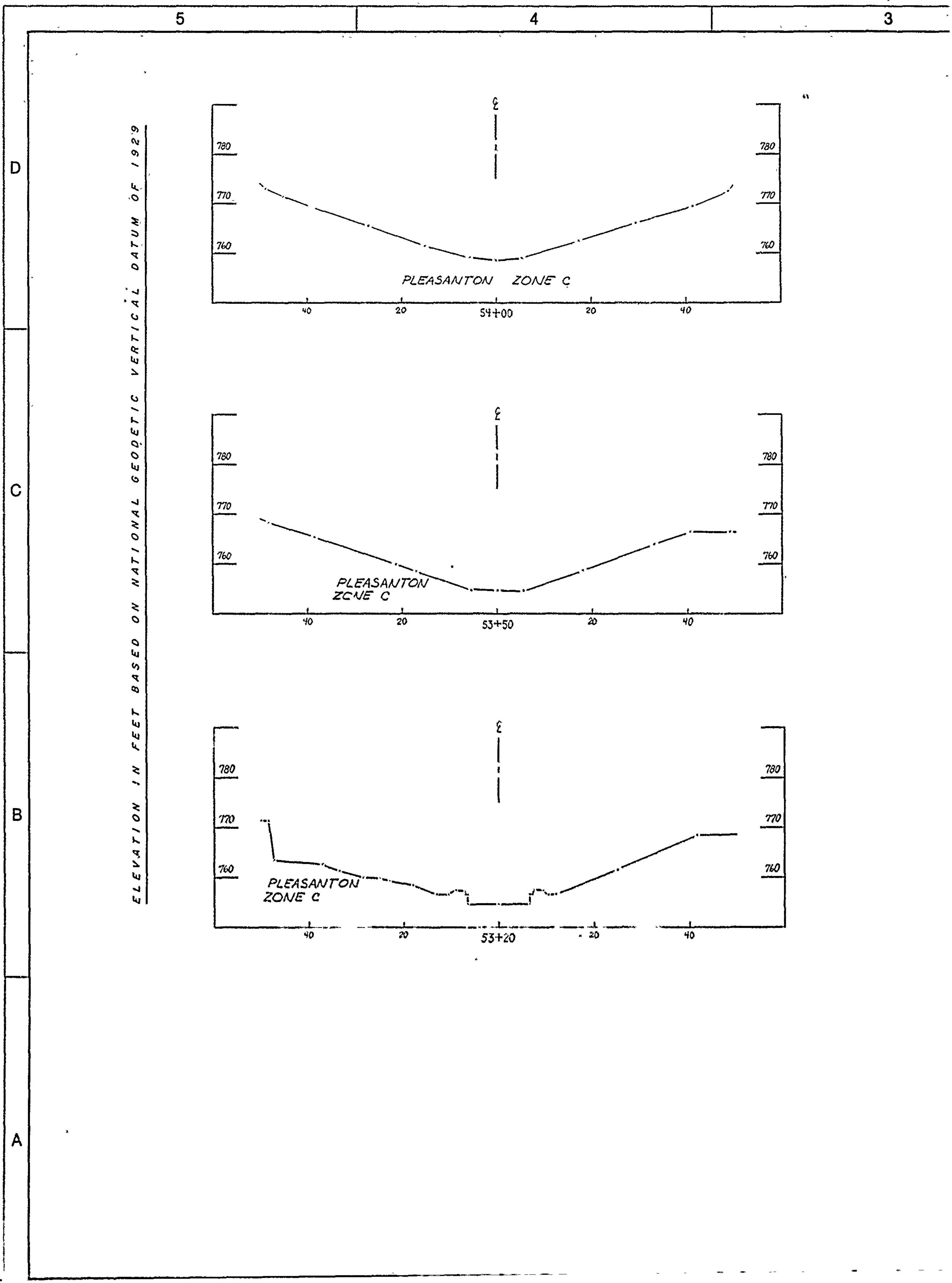


Revisions			
Symbol	Descriptions	Date	Approved

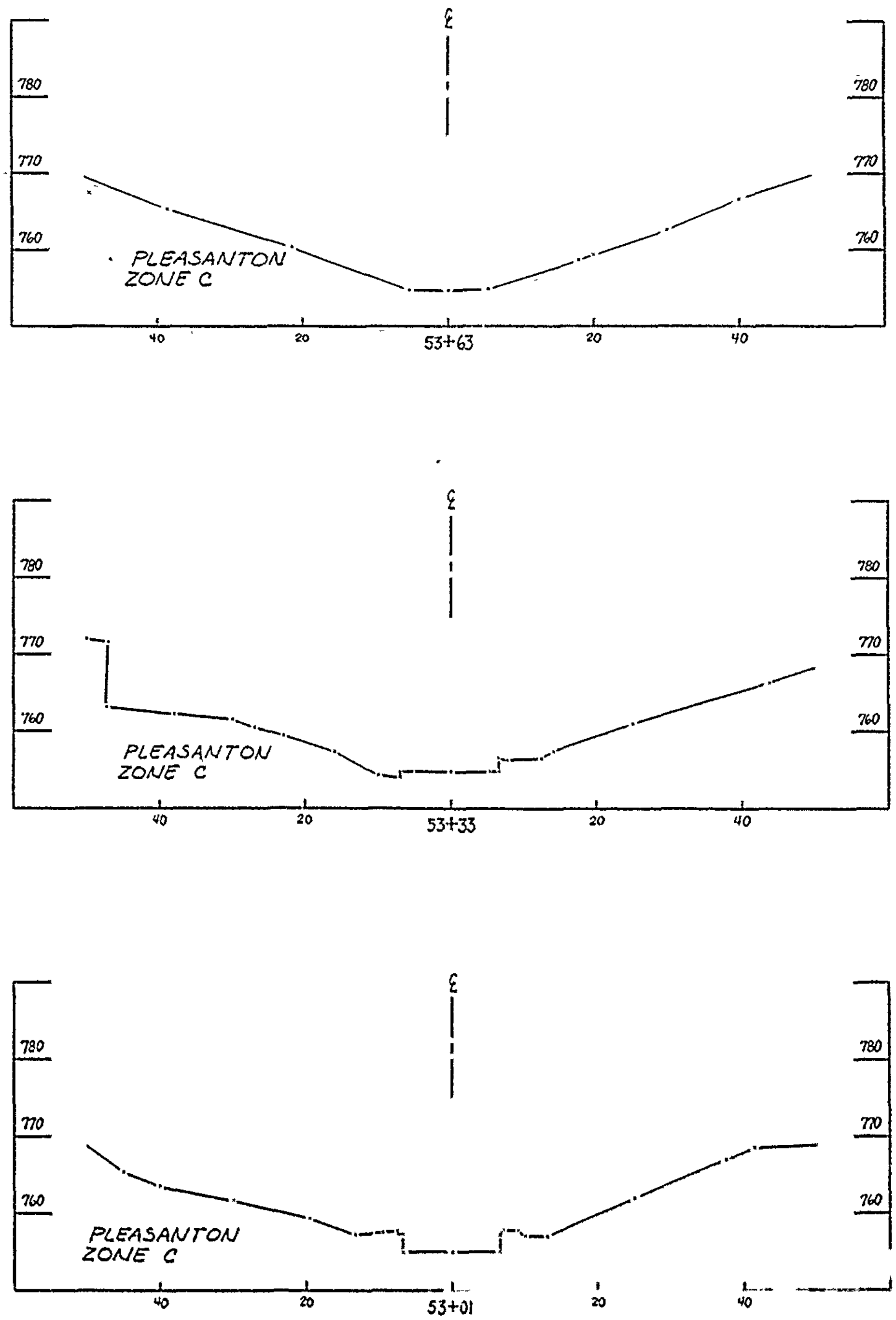
U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:	US Army Corps of Engineers EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT **CUTOFF TRENCH FINAL CROSS SECTIONS STA. 97+75 TO STA. 96+83**
Drawn by:	
Checked by:	Scale: AS SHOWN — Sheet number: 80
Submitted by:	Date: JUNE 1990 — Dwg. No.: — File No.: RBL-2-1300

3 2 1 **PLATE NO. 80**


ELEVATION IN FEET BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929
780
770
760
PLEASANTON ZONE C
40
20
54+00
20
40
780
770
760
PLEASANTON
ZONE C
40
20
53+50
20
40
780
770
760
PLEASANTON
ZONE C
40
20
53+20
20
40
5
4
3
D
C
B
A

3 | 2 | 1



D

C

B

A

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:

Drawn by:

Checked by:

Submitted by:

US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI-
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

OUTLET WORKS
FINAL CROSS SECTIONS
STA. 54+00 TO STA. 53+01

Scale: AS SHOWN

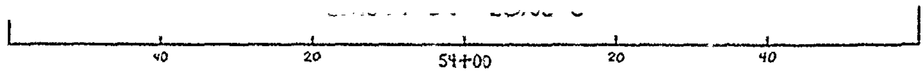
Date: JUNE 1990

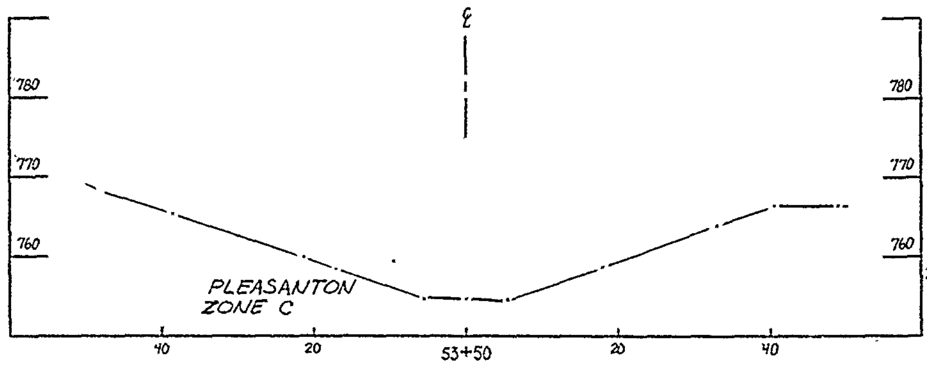
Dwg. No.:

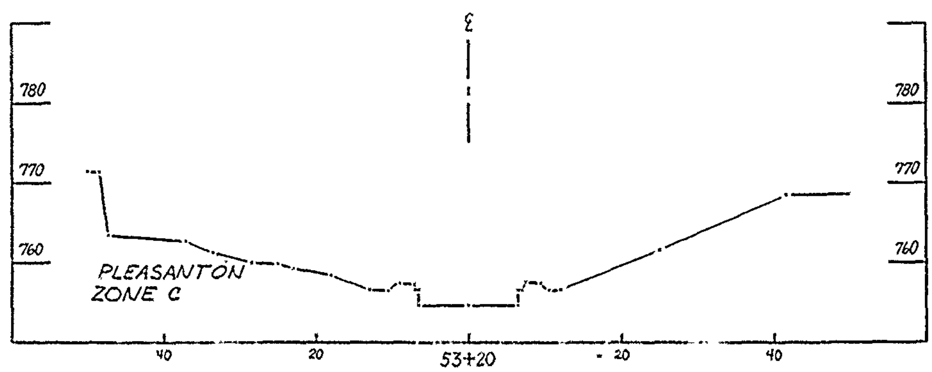
Sheet number: 81

File No. RBL-2-1301

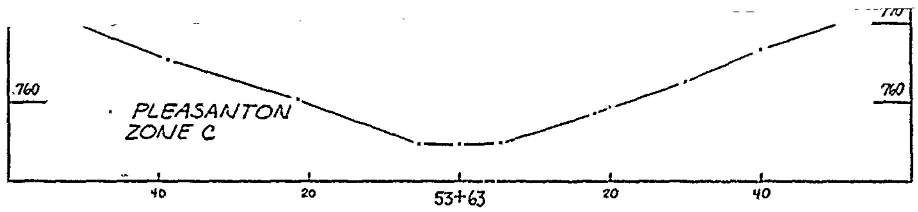
ELEVATION IN FEET BASED ON NATIONAL GEODETIC VERTICAL

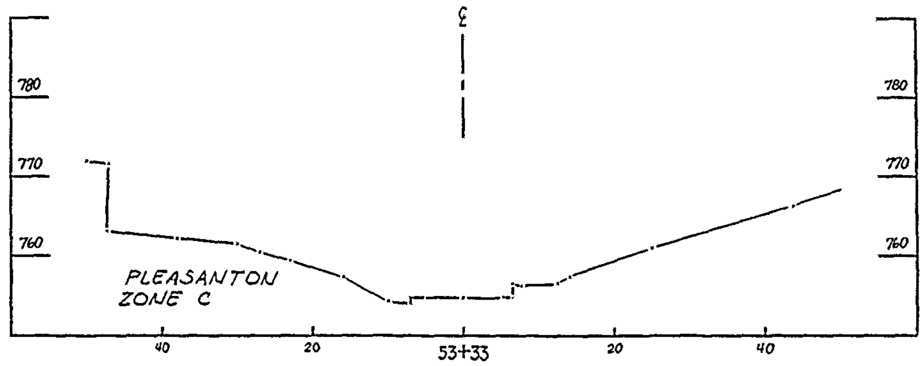


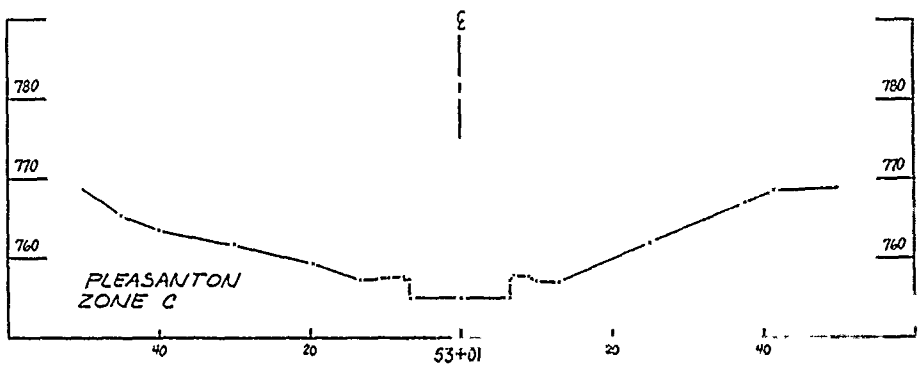




C
B
A
5
4
3







Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

OUTLET WORKS
FINAL CROSS SECTIONS
STA. 54+00 TO STA. 53+01

Designed by:
Drawn by:
Checked by:
Submitted by:

Scale: AS SHOWN
Date: JUNE 1990
Dwg. No.:
Sheet number: 81
File No.: RBL-2-1301

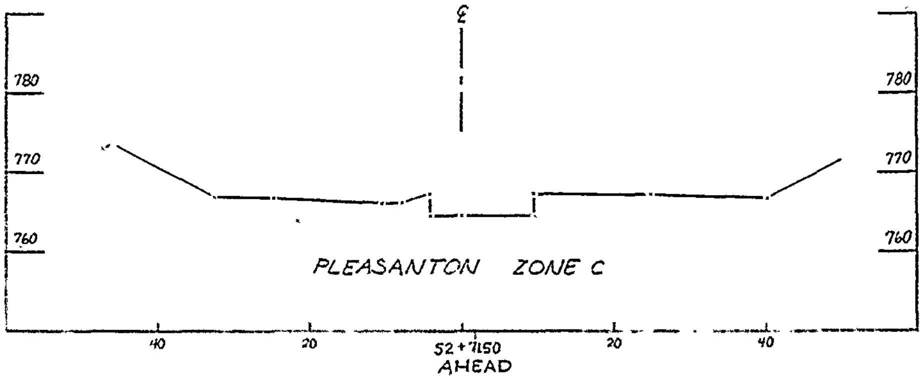
3 | 2 | 1 | PLATE NO. 81

C
B
A

5 4 3

ELEVATION IN FEET BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

D



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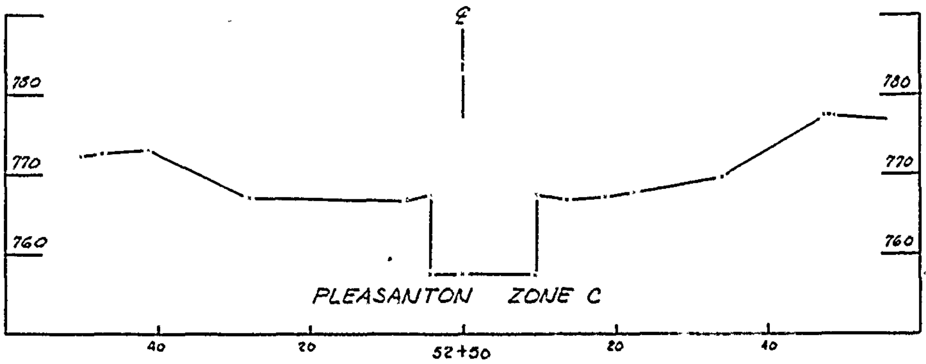

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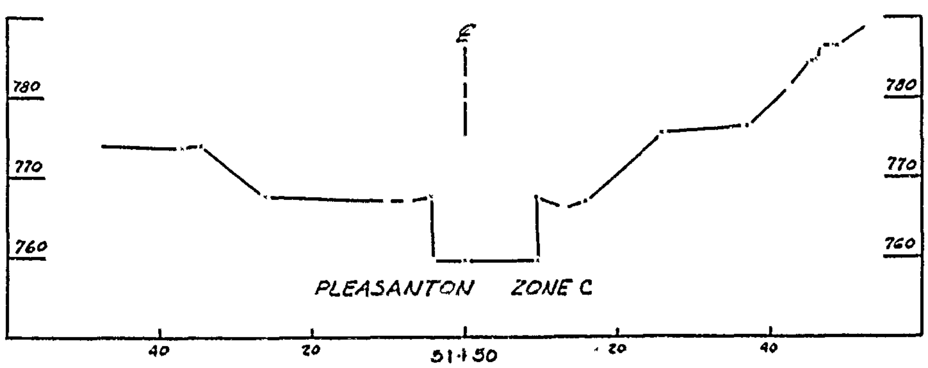

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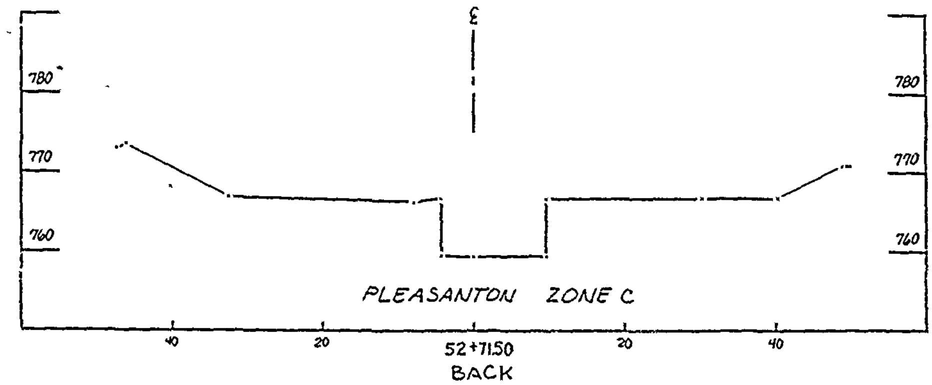
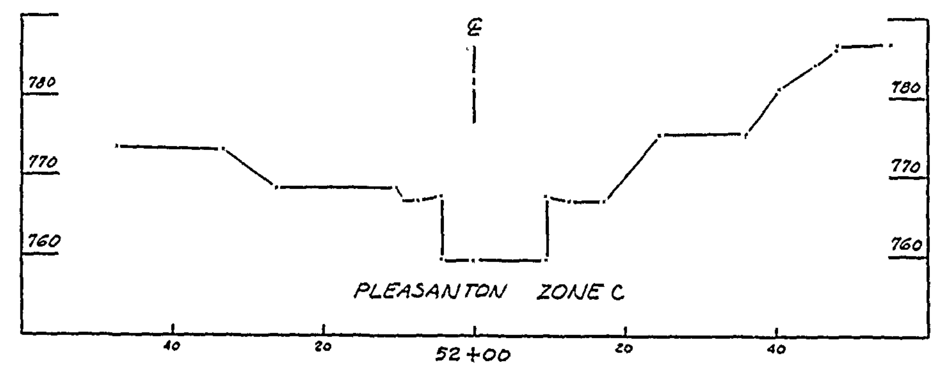
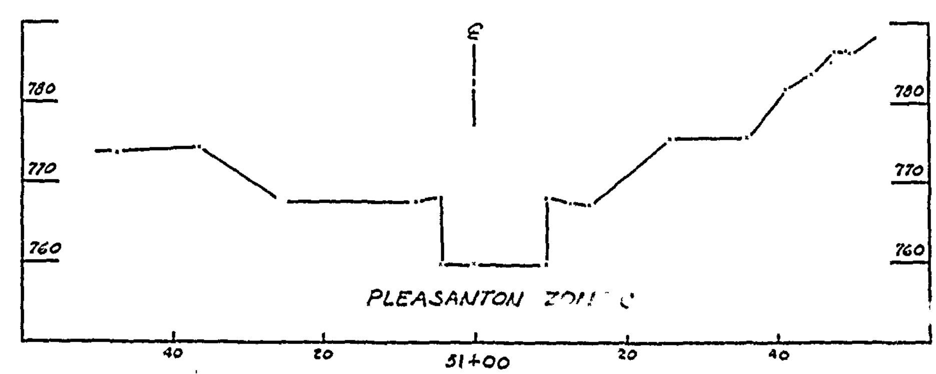






Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

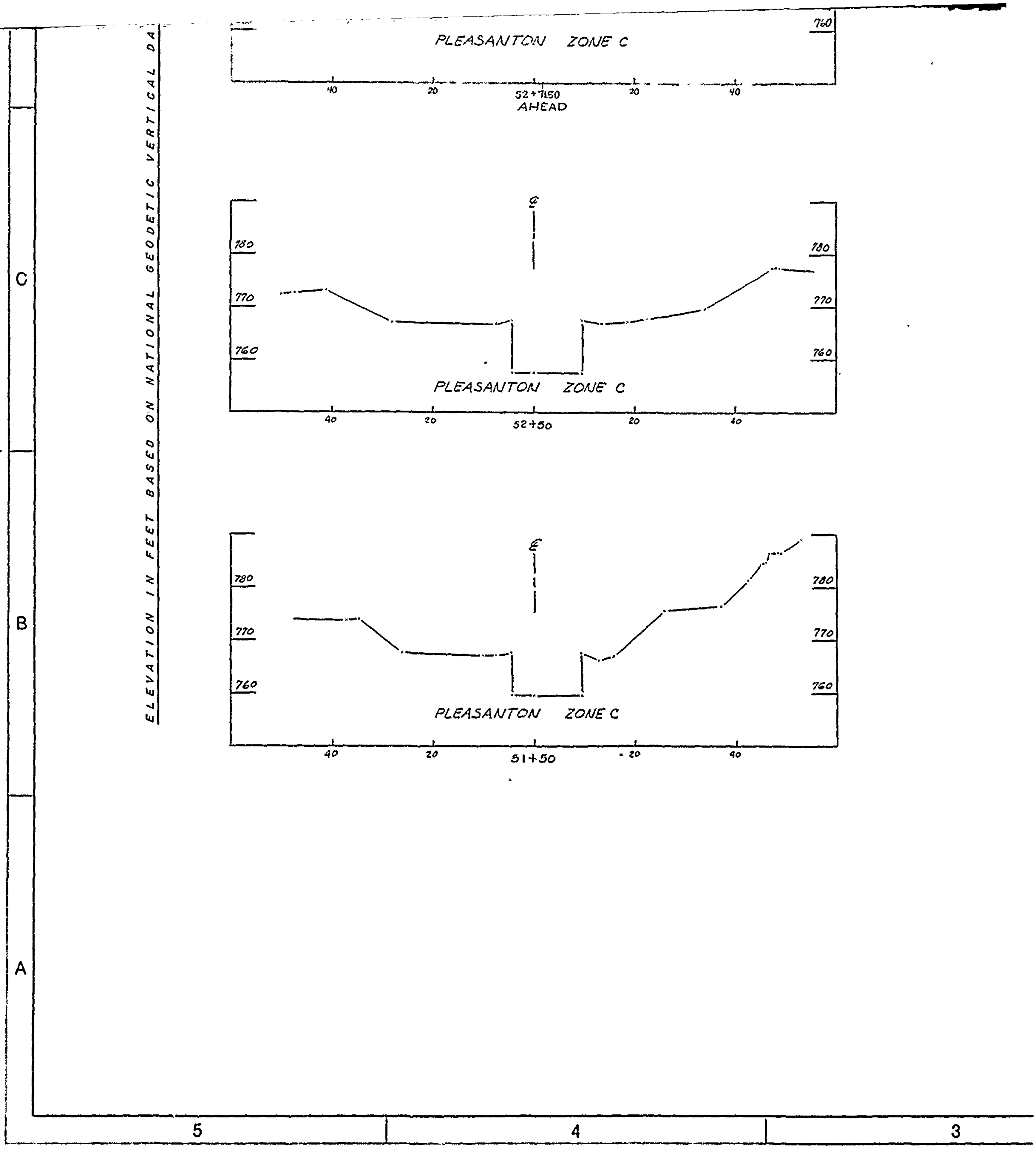
US Army Corps of Engineers

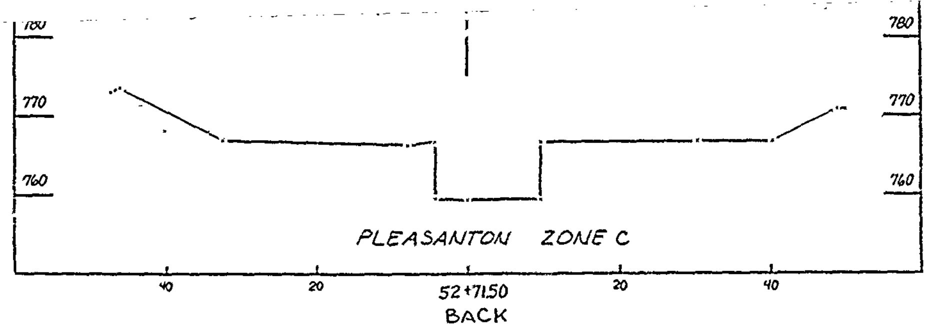
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

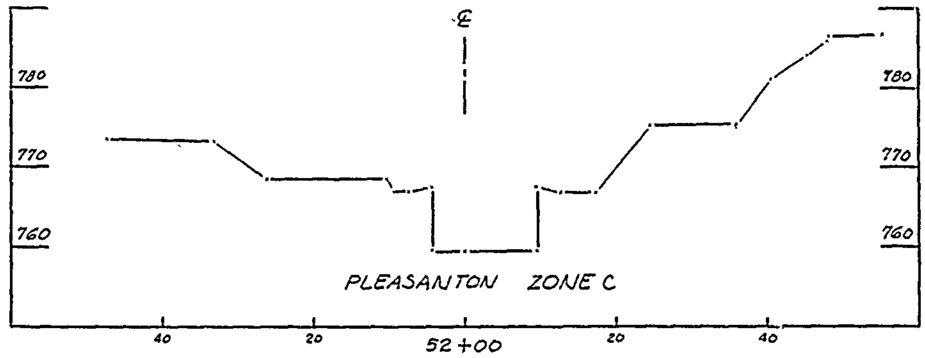
OUTLET WORKS
FINAL CROSS SECTIONS
STA. 52+71.5 TO STA. 51+00

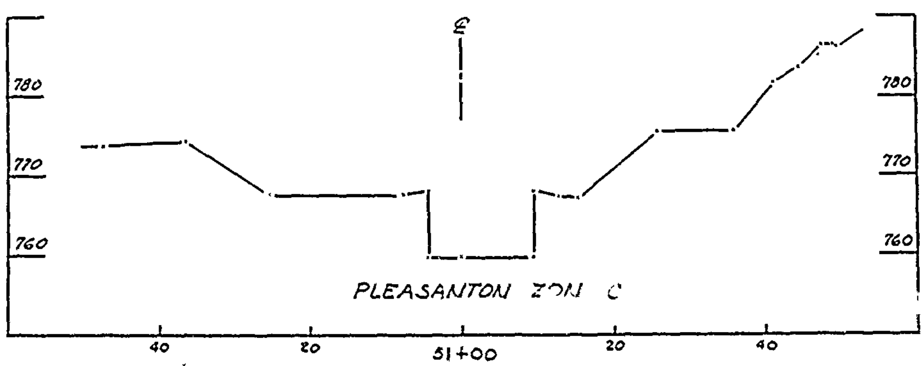
Designed by:	
Drawn by:	
Checked by:	
Submitted by:	
Scale:	AS SHOWN
Date:	JUNE 1990
Dwg. No.:	
Sheet number:	82
File No.:	RBL-2-1302

PLATE NO. 82


ELEVATION IN FEET BASED ON NATIONAL GEODETIC VERTICAL DA
PLEASANTON ZONE C
760
40
20
52+7150
AHEAD
20
40
780
770
760
780
770
760
PLEASANTON ZONE C
40
20
52+50
20
40
780
770
760
780
770
760
PLEASANTON ZONE C
40
20
51+50
20
40
C
B
A
5
4
3







Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:

Drawn by:

Checked by:

Submitted by:

US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

OUTLET WORKS
FINAL CROSS SECTIONS
STA. 52+71.5 TO STA. 51+00

Scale: AS SHOWN
Date: JUNE 1990
Dwg. No.:
Sheet number: 82
File No.: RBL-2-1302

3 | 2 | 1

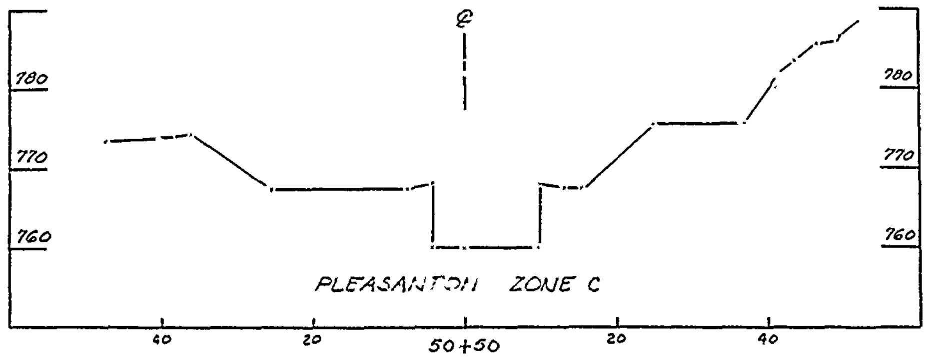
PLATE NO. 82

A B C D

5 4 3

D

ELEVATION IN FEET BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929



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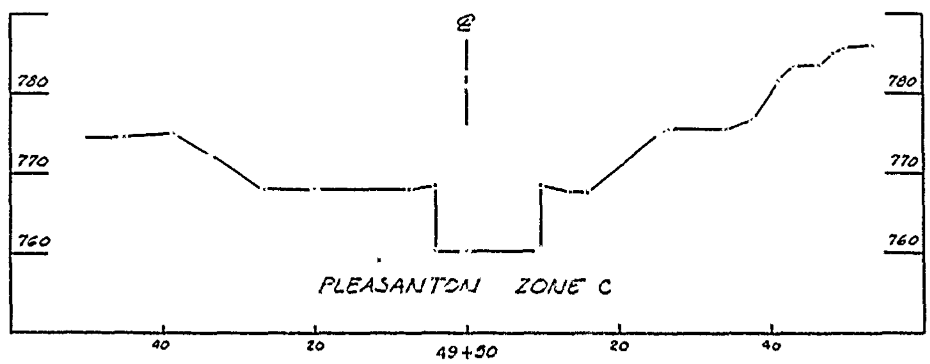

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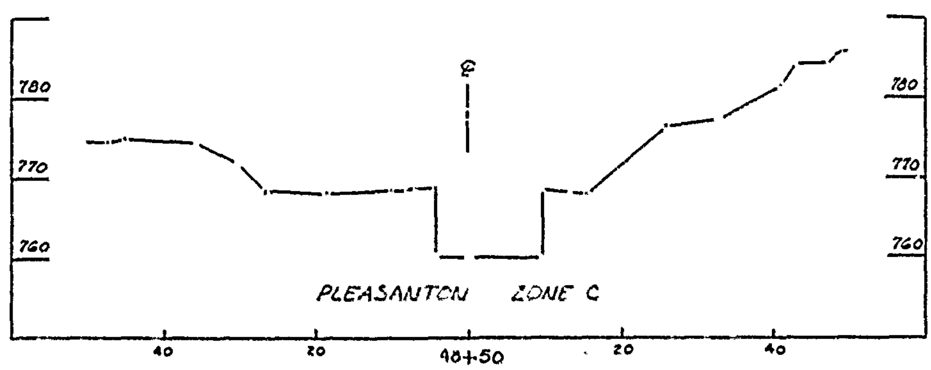
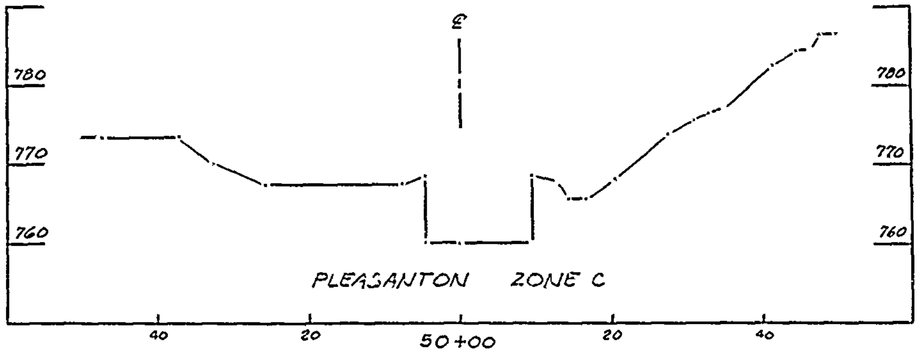
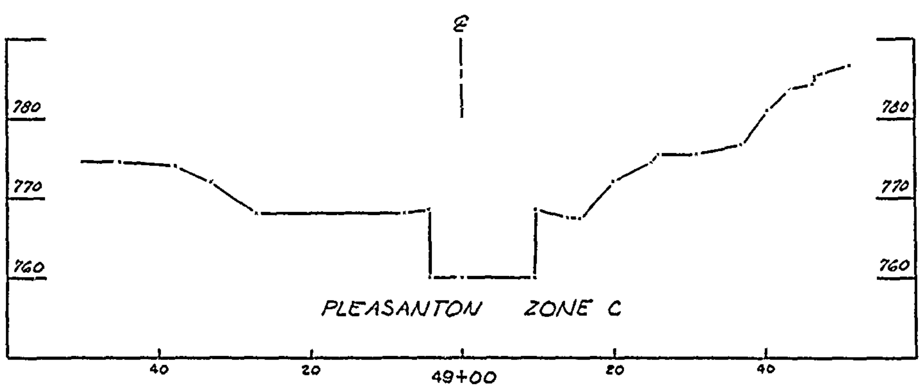


A

3 | 2 | 1





D

C

B

A

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:

Drawn by:

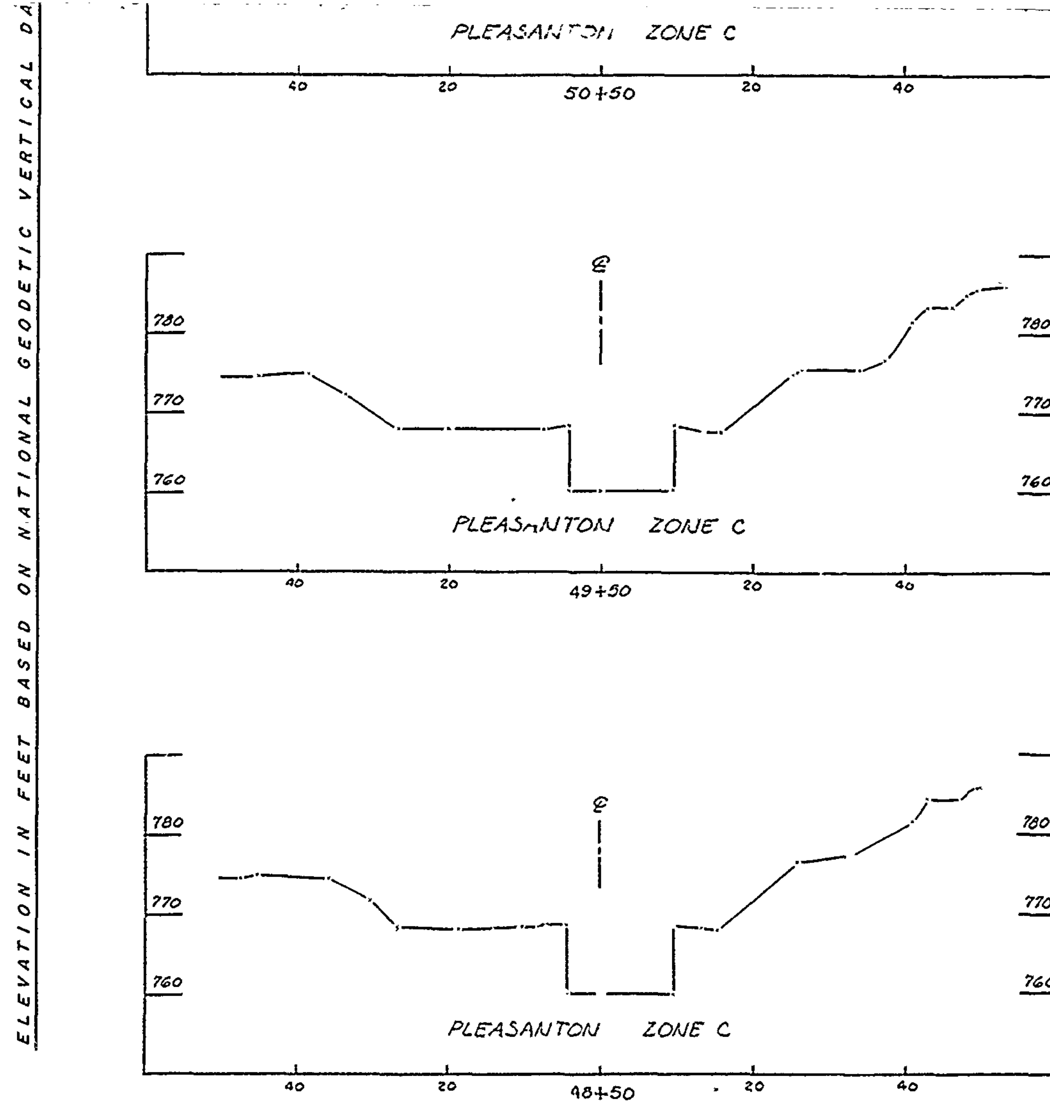
Checked by:

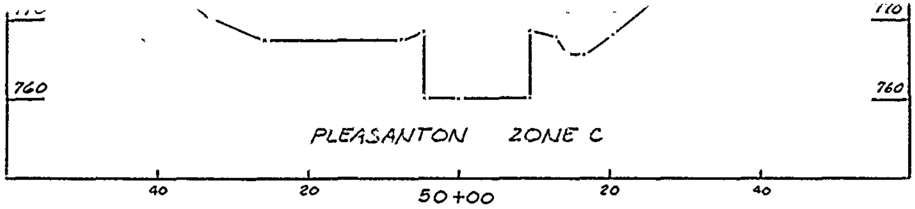
US Army Corps of Engineers

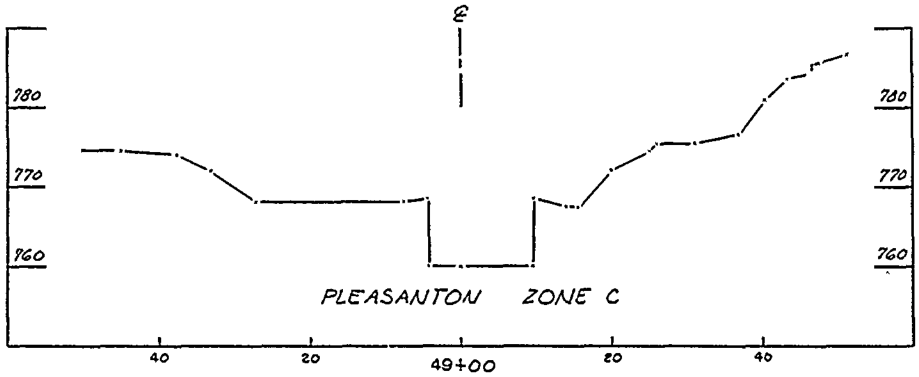
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

OUTLET WORKS
FINAL CROSS SECTIONS
STA. 50+50 TO STA. 48+50

Scale: AS SHOWN | Sheet number:


ELEVATION IN FEET BASED ON NATIONAL GEODETIC VERTICAL DA
PLEASANTON ZONE C
40 20 50+50 20 40
780 770 760
PLEASANTON ZONE C
40 20 49+50 20 40
780 770 760
PLEASANTON ZONE C
40 20 48+50 20 40





C

B

A

Symbol	Revisions Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:

Drawn by:

Checked by:

Submitted by:

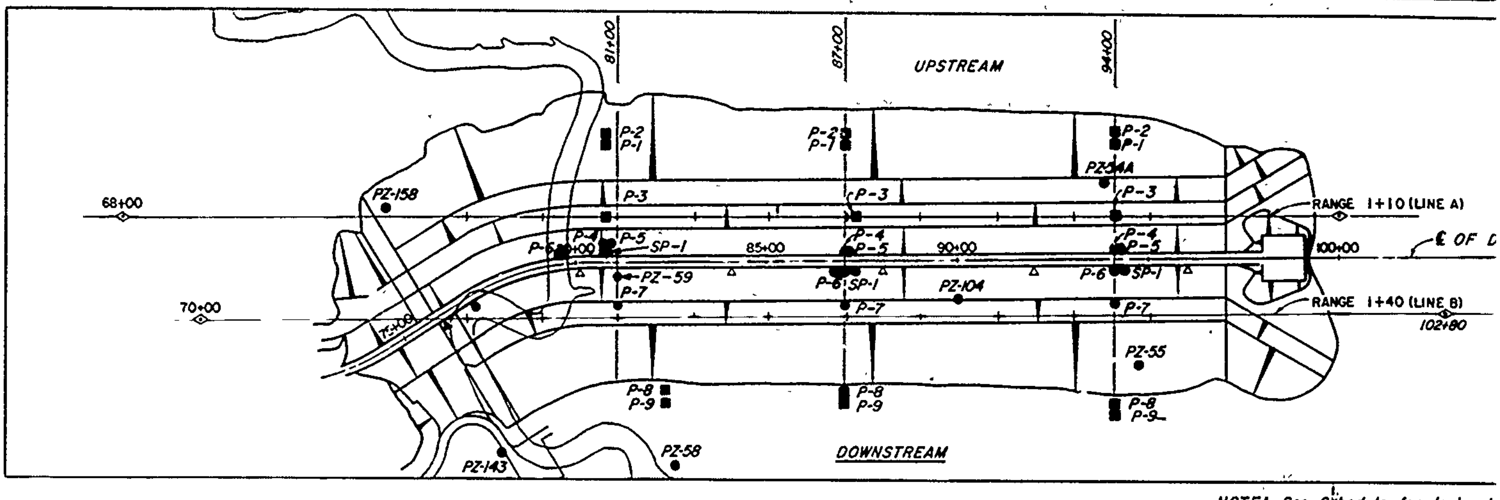
US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

OUTLET WORKS
FINAL CROSS SECTIONS
STA. 50+50 TO STA. 48+50

Scale: AS SHOWN	Sheet number: 83		
Date: JUNE 1990			
Dwg. No.:		File No.: RBL-2-1303	

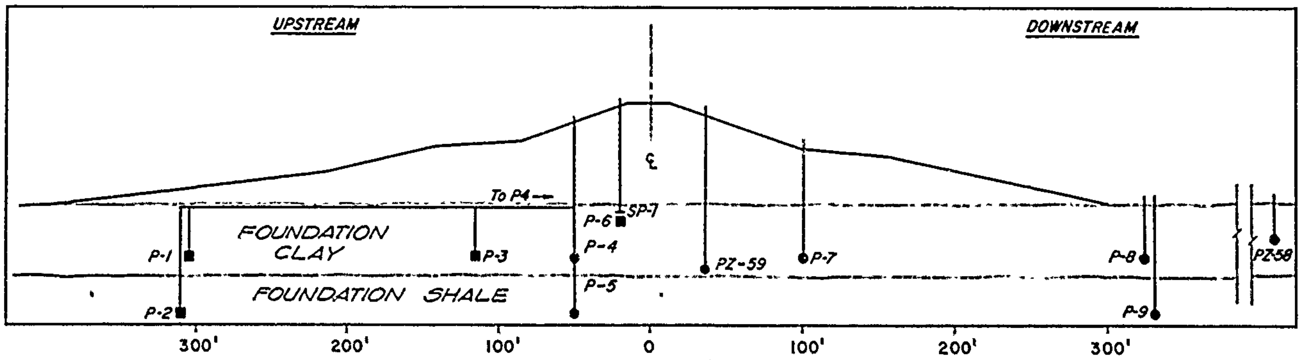
3 | 2 | 1 | PLATE NO. 83



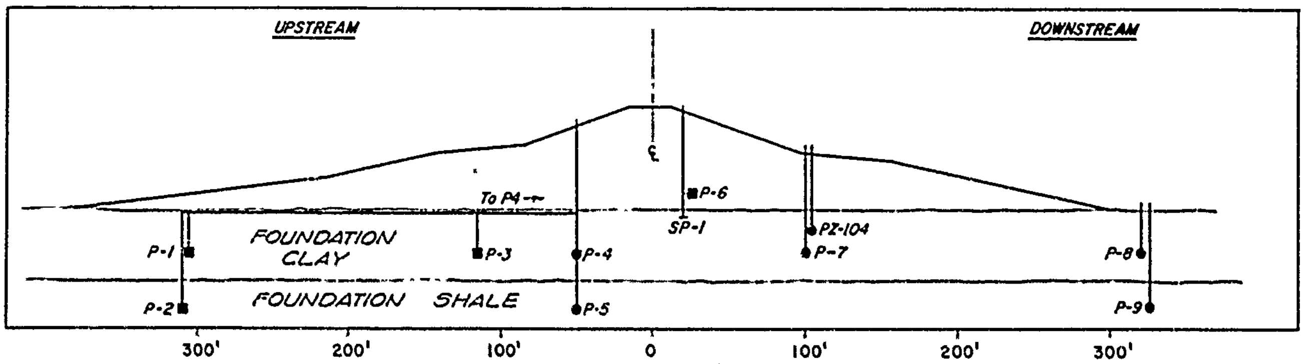
NOTE: See Schedule for device lo

PLAN

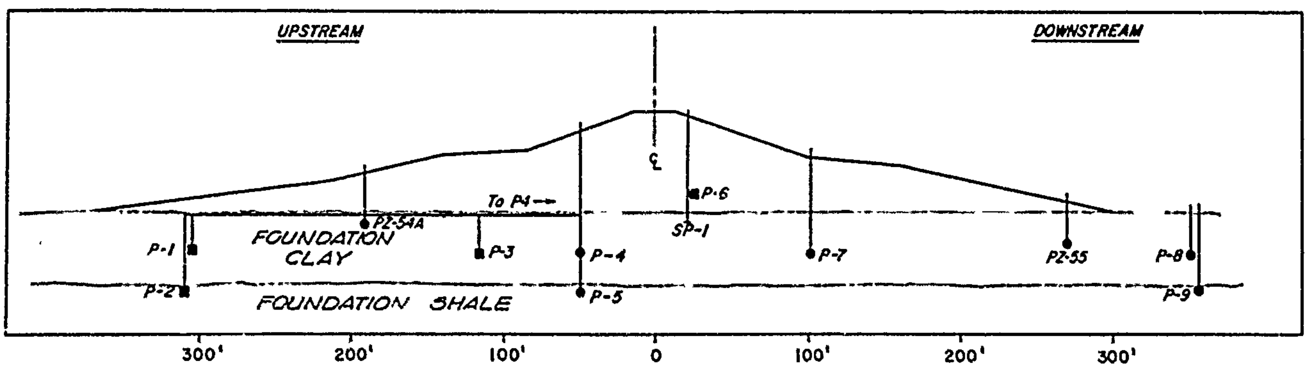
SCALE IN FEET



STA. 81+00±

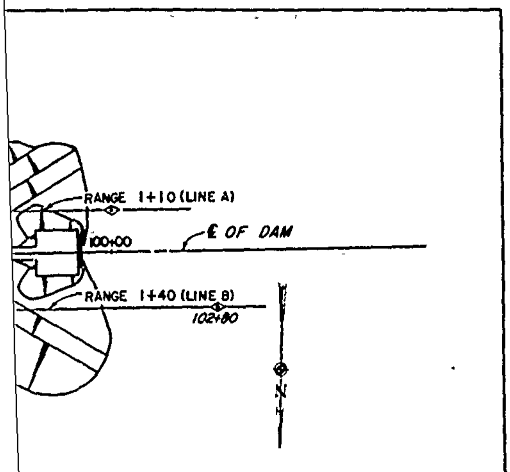


STA. 87+00±

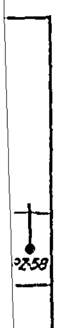


STA. 94+00±

UE ENGINEERING PATS



E: See Schedule for device location.



OBSERVATION DEVICE SCHEDULE					
GAGE NO.	STATION	RANGE	TIP ELEVATION	TYPE PZ	MATERIAL
P-81-1	80+70	3+05U	740	AIR	CLAY
P-81-2	80+70	3+10U	705	AIR	SHALE
P-81-3	80+70	1+15U	740	AIR	CLAY
P-81-4	80+70	0+50U	740	OPEN	CLAY
P-81-5	80+75	0+50U	705	OPEN	SHALE
P-81-7	81+00	1+02D	740	OPEN	CLAY
P-81-8	82+20	3+25D	740	OPEN	CLAY
P-81-9	82+20	3+30D	705	OPEN	SHALE
P-87-1	87+00	3+05U	745	AIR	CLAY
P-87-2	87+00	3+10U	710	AIR	SHALE
P-87-3	87+00	1+15U	745	AIR	CLAY
P-87-4	87+00	0+50U	745	OPEN	CLAY
P-87-5	87+05	0+50U	710	OPEN	SHALE
P-87-7	87+00	1+02D	745	OPEN	CLAY
P-87-8	87+00	3+20D	745	OPEN	CLAY
P-87-9	87+00	3+25D	710	OPEN	SHALE
P-94-1	94+00	3+05U	750	AIR	CLAY
P-94-2	94+00	3+10U	725	AIR	SHALE
P-94-3	94+00	1+15U	750	AIR	CLAY
P-94-4	94+00	0+50U	750	OPEN	CLAY
P-94-5	94+05	0+50U	725	OPEN	SHALE
P-94-7	94+00	1+02D	750	OPEN	CLAY
P-94-8	94+00	3+50D	750	OPEN	CLAY
P-94-9	94+00	3+55D	725	OPEN	SHALE
SP-81-1	79+65	0+20U	770	SETTLEMENT & OPEN	CLAY
SP-87-1	87+00	0+20D	770	SETTLEMENT & OPEN	CLAY
SP-94-1	94+00	0+20D	770	SETTLEMENT & OPEN	CLAY
I-77-1	77+00	0+20D	705	INCLINOMETER	SHALE
I-94-1	94+00	0+20D	710	INCLINOMETER	SHALE

EXISTING OBSERVATION DEVICES					
PIEZ. NO.	STATION	RANGE	TIP ELEVATION	TYPE PZ	MATERIAL
PZ 54A	93+70	1+90U	766	OPEN	CLAY
PZ 55	94+75	2+70D	755	OPEN	CLAY
PZ 58	82+55	5+15D	754	OPEN	CLAY
PZ 59	81+45	0+35D	757	OPEN	CLAY
PZ 104	90+00	1+00D	760	OPEN	CLAY
PZ 143	77+95	4+80D	746	OPEN	CLAY
PZ 158	74+90	1+36U	747	OPEN	CLAY

NOTES:
1. USE EXTENDED CENTERLINE OF DAM FOR LOCATION OF PIEZOMETERS 143 AND 158.
2. THE EXISTING PIEZOMETERS ARE TO REMAIN OPERATIVE THROUGHOUT THE CONTRACT AND SHALL BE EXTENDED UP THROUGH THE EMBANKMENT AS REQUIRED.

LEGEND

- ● OPEN TUBE PIEZOMETERS
- ■ AIR OPERATED PIEZOMETERS
- ⊥ SETTLEMENT GAGE AND OPEN TUBE PIEZOMETERS
- + ALINEMENT MONUMENTS
- ⊕ INCLINOMETERS
- △ CREST SETTLEMENT MONUMENTS
- ◇ INSTRUMENT MONUMENTS

Revisions			
Symbol	Descriptions	Date	Approved

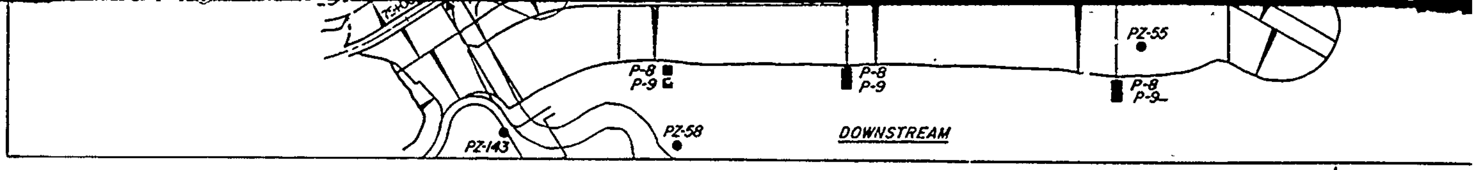
U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:
Drawn by:
Checked by:

US Army Corps of Engineers

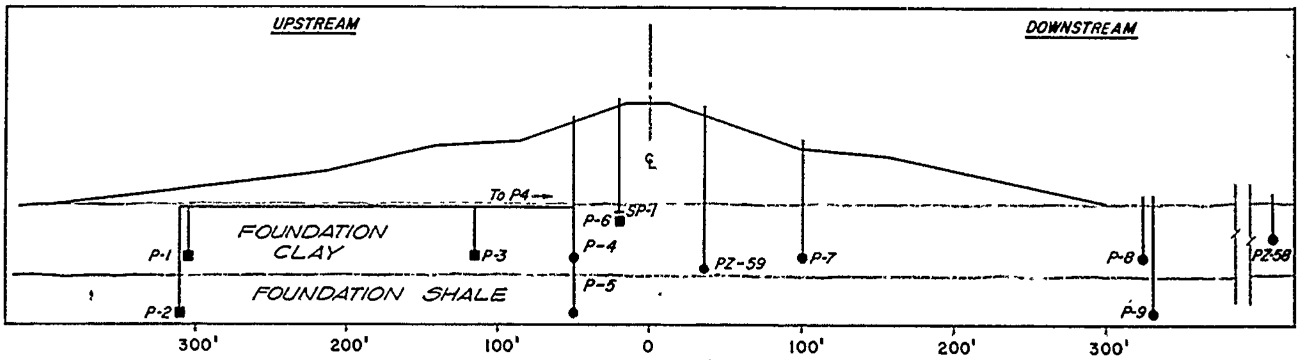
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

OBSERVATION DEVICES PLAN, SECTIONS AND SCHEDULES

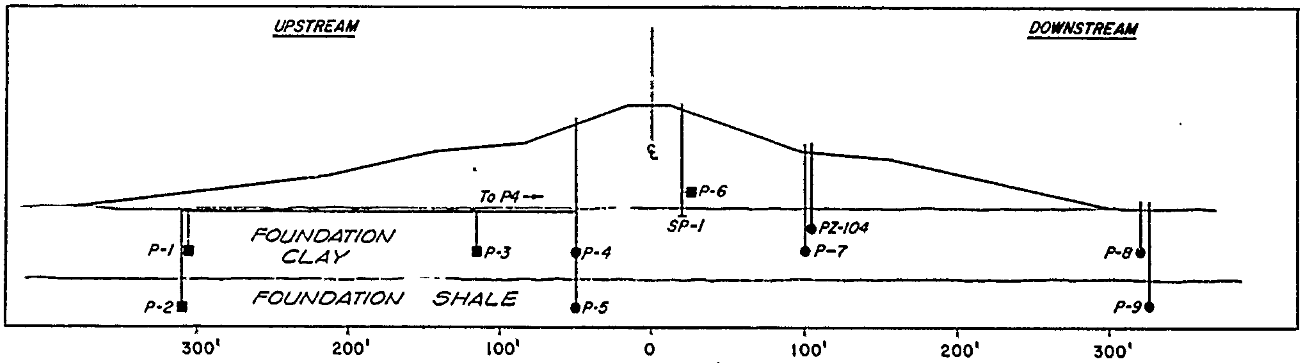


NOTE: See Schedule for devic

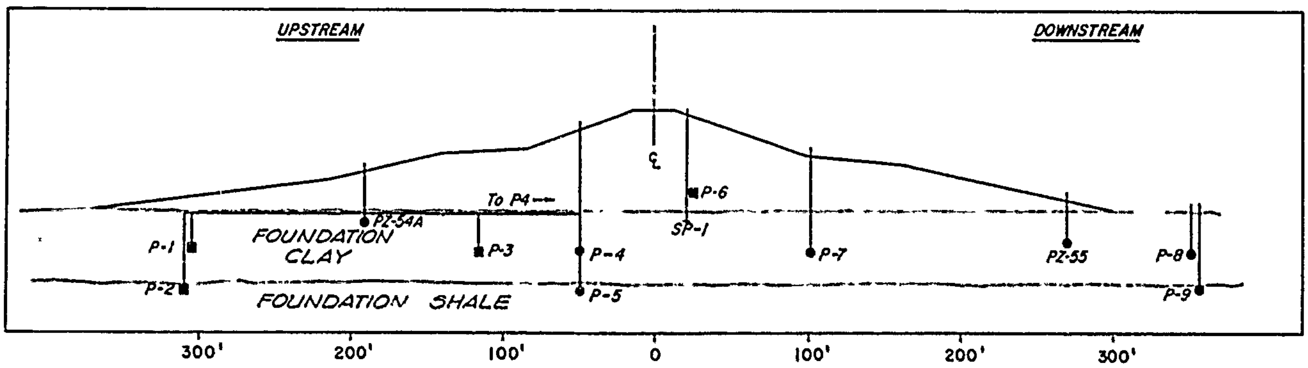
PLAN



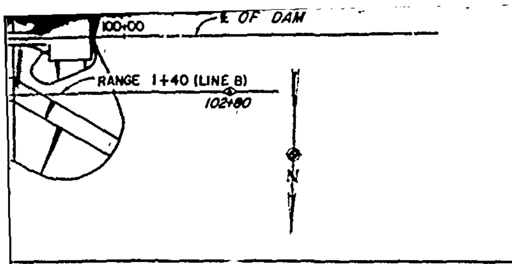
STA. 81+00±



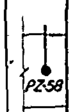
STA. 87+00±



STA. 94+00±



NOTE: See Schedule for device location.



P-81-5	80+75	0+50U	705	OPEN	SHALE
P-81-7	81+00	1+02D	740	OPEN	CLAY
P-81-8	82+20	3+25D	740	OPEN	CLAY
P-81-9	82+20	3+30D	705	OPEN	SHALE
P-87-1	87+00	3+05U	745	AIR	CLAY
P-87-2	87+00	3+10U	710	AIR	SHALE
P-87-3	87+00	1+15U	745	AIR	CLAY
P-87-4	87+00	0+50U	745	OPEN	CLAY
P-87-5	87+05	0+50U	710	OPEN	SHALE
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P-87-8	87+00	3+20D	745	OPEN	CLAY
P-87-9	87+00	3+25D	710	OPEN	SHALE
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P-94-3	94+00	1+15U	750	AIR	CLAY
P-94-4	94+00	0+50U	750	OPEN	CLAY
P-94-5	94+05	0+50U	725	OPEN	SHALE
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P-94-8	94+00	3+50D	750	OPEN	CLAY
P-94-9	94+00	3+55D	725	OPEN	SHALE
SP-81-1	79+65	0+20U	770	SETTLEMENT & OPEN	CLAY
SP-87-1	87+00	0+20D	770	SETTLEMENT & OPEN	CLAY
SP-94-1	94+00	0+20D	770	SETTLEMENT & OPEN	CLAY
I-77-1	77+00	0+20D	705	INCLINOMETER	SHALE
I-94-1	94+00	0+20D	710	INCLINOMETER	SHALE

EXISTING OBSERVATION DEVICES

PIEZ. NO.	STATION	RANGE	TIP ELEVATION	TYPE PZ	MATERIAL
PZ 54A	93+70	1+90U	766	OPEN	CLAY
PZ 55	94+75	2+70D	755	OPEN	CLAY
PZ 58	82+55	5+15D	754	OPEN	CLAY
PZ 59	81+45	0+35D	757	OPEN	CLAY
PZ 104	90+00	1+00D	760	OPEN	CLAY
PZ 143	77+95	4+80D	746	OPEN	CLAY
PZ 158	74+90	1+36U	747	OPEN	CLAY

NOTES:
1. USE EXTENDED CENTERLINE OF DAM FOR LOCATION OF PIEZOMETERS 143 AND 158.
2. THE EXISTING PIEZOMETERS ARE TO REMAIN OPERATIVE THROUGHOUT THE CONTRACT AND SHALL BE EXTENDED UP THROUGH THE EMBANKMENT AS REQUIRED.

LEGEND

- ● OPEN TUBE PIEZOMETERS
- ■ AIR OPERATED PIEZOMETERS
- ⊥ SETTLEMENT GAGE AND OPEN TUBE PIEZOMETERS
- + ALINEMENT MONUMENTS
- ⊕ INCLINOMETERS
- △ CREST SETTLEMENT MONUMENTS
- ◇ INSTRUMENT MONUMENTS

Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

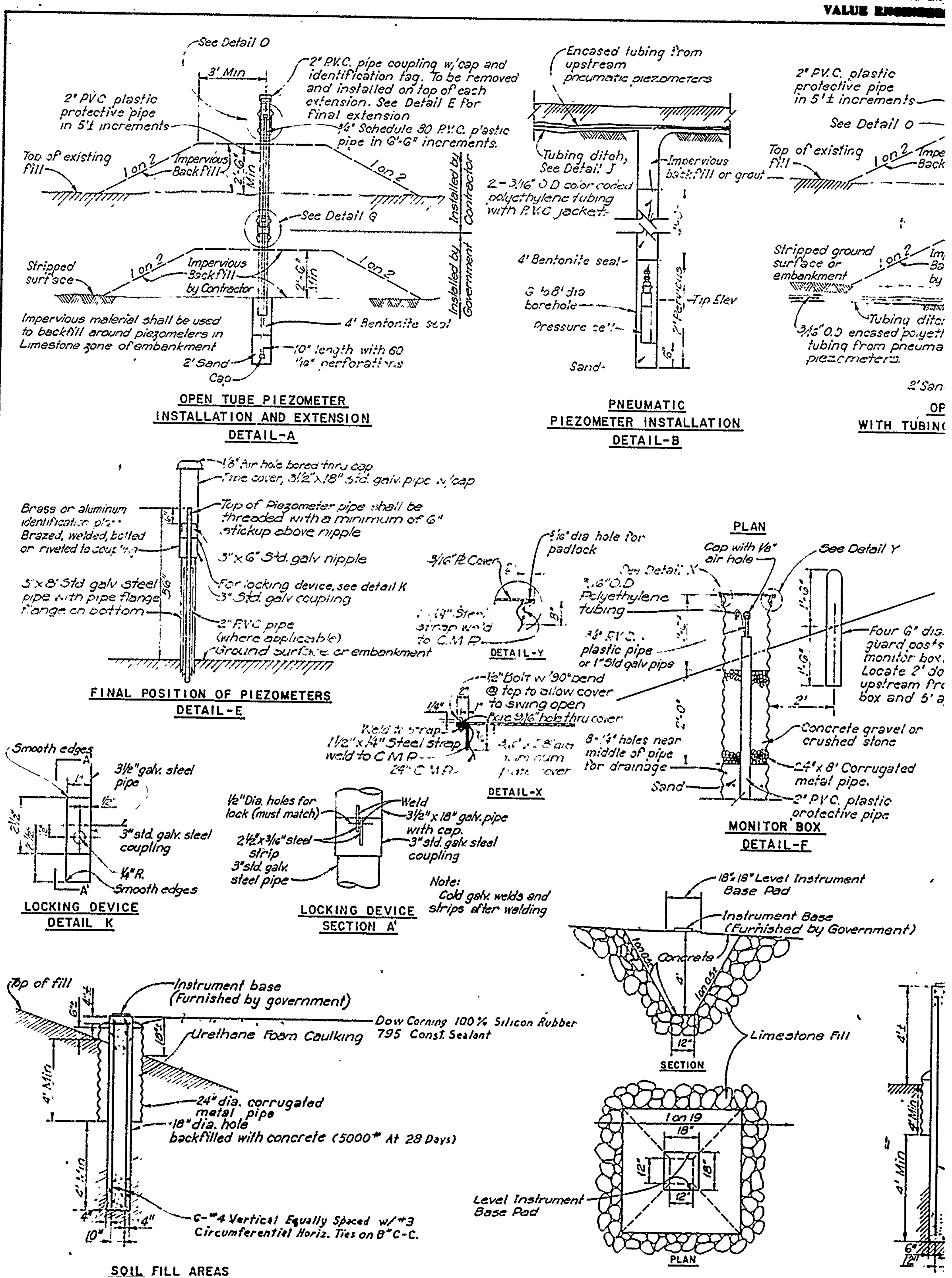
Designed by:
Drawn by:
Checked by:
Submitted by:

US Army Corps of Engineers

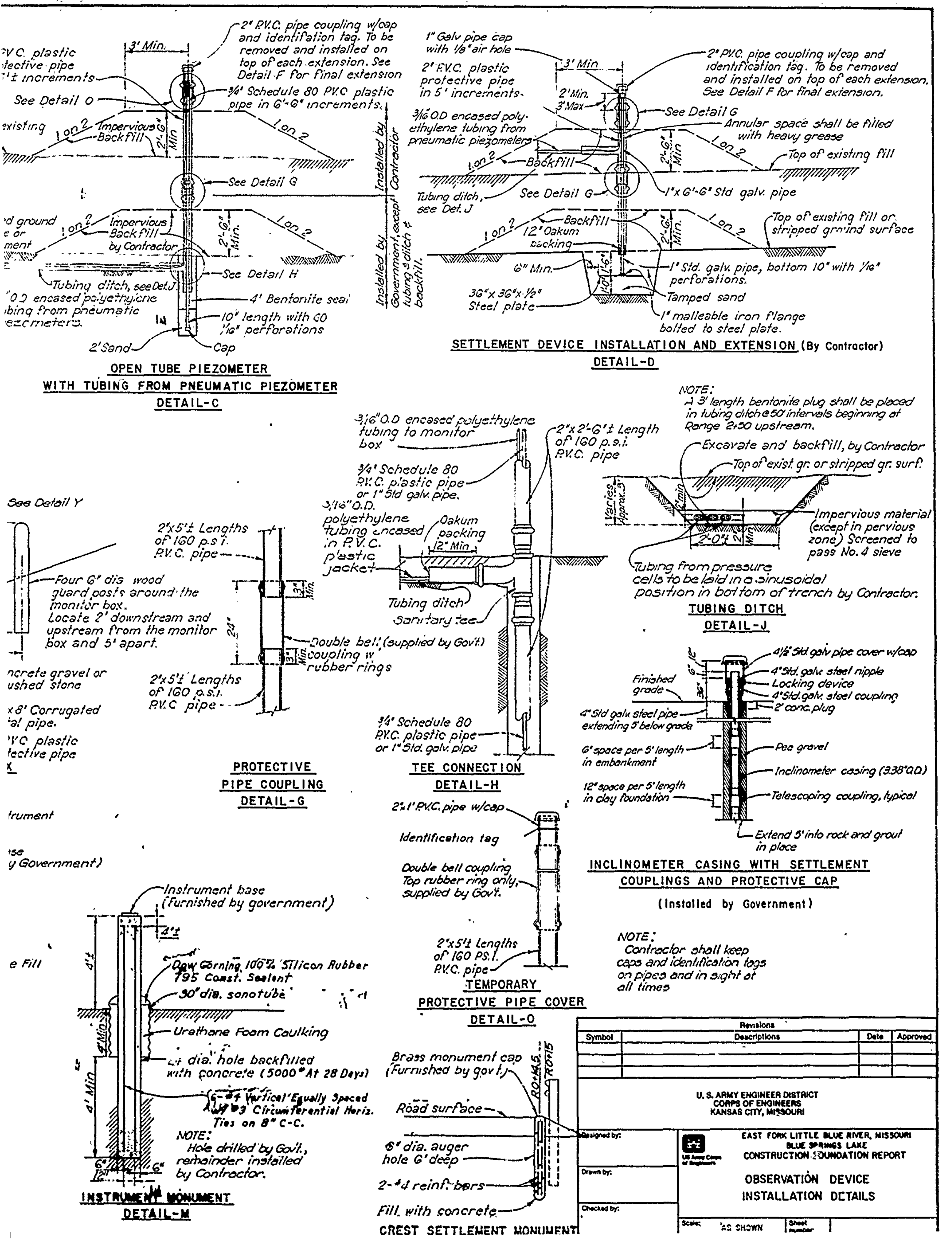
EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

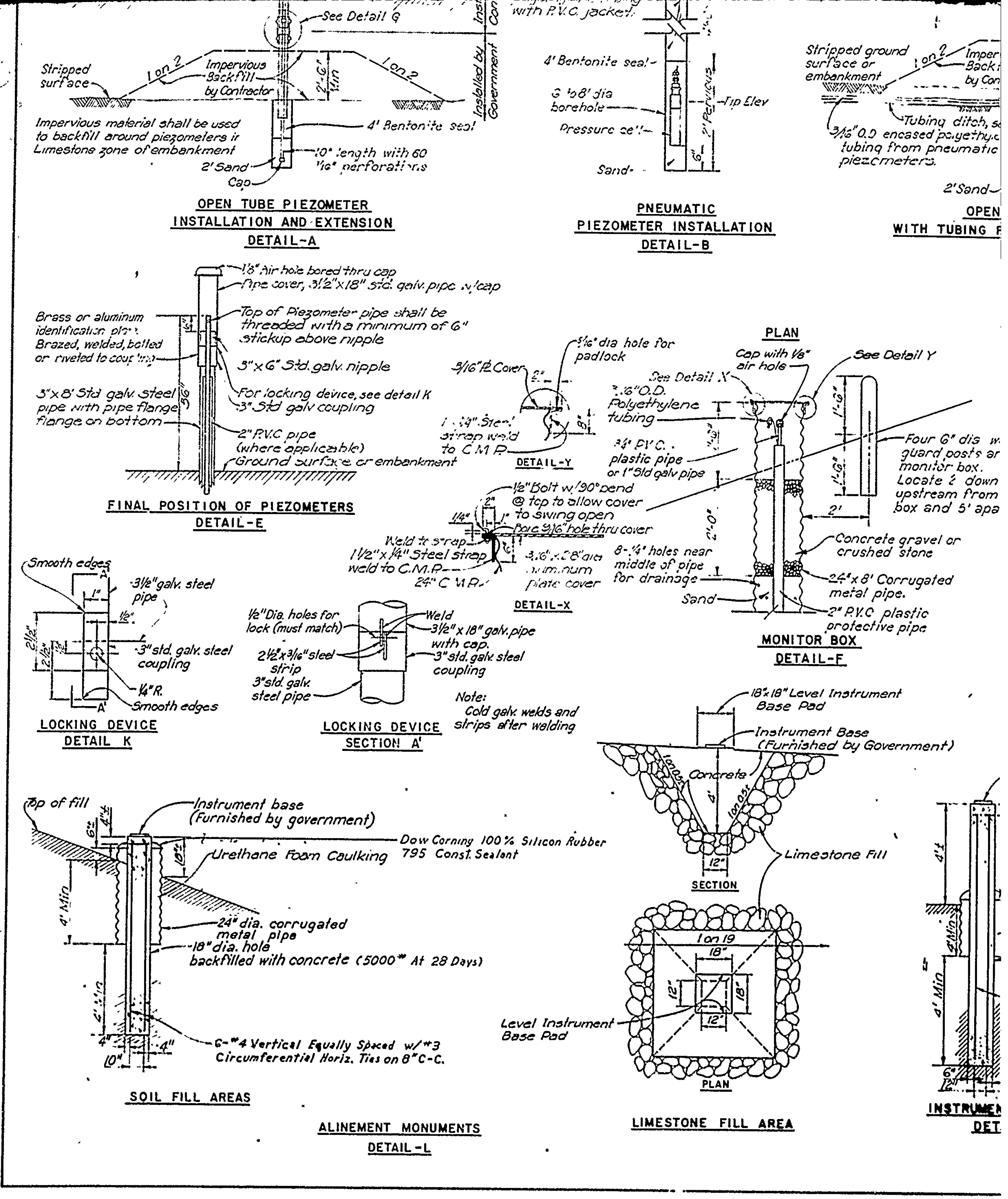
OBSERVATION DEVICES PLAN, SECTIONS AND SCHEDULES

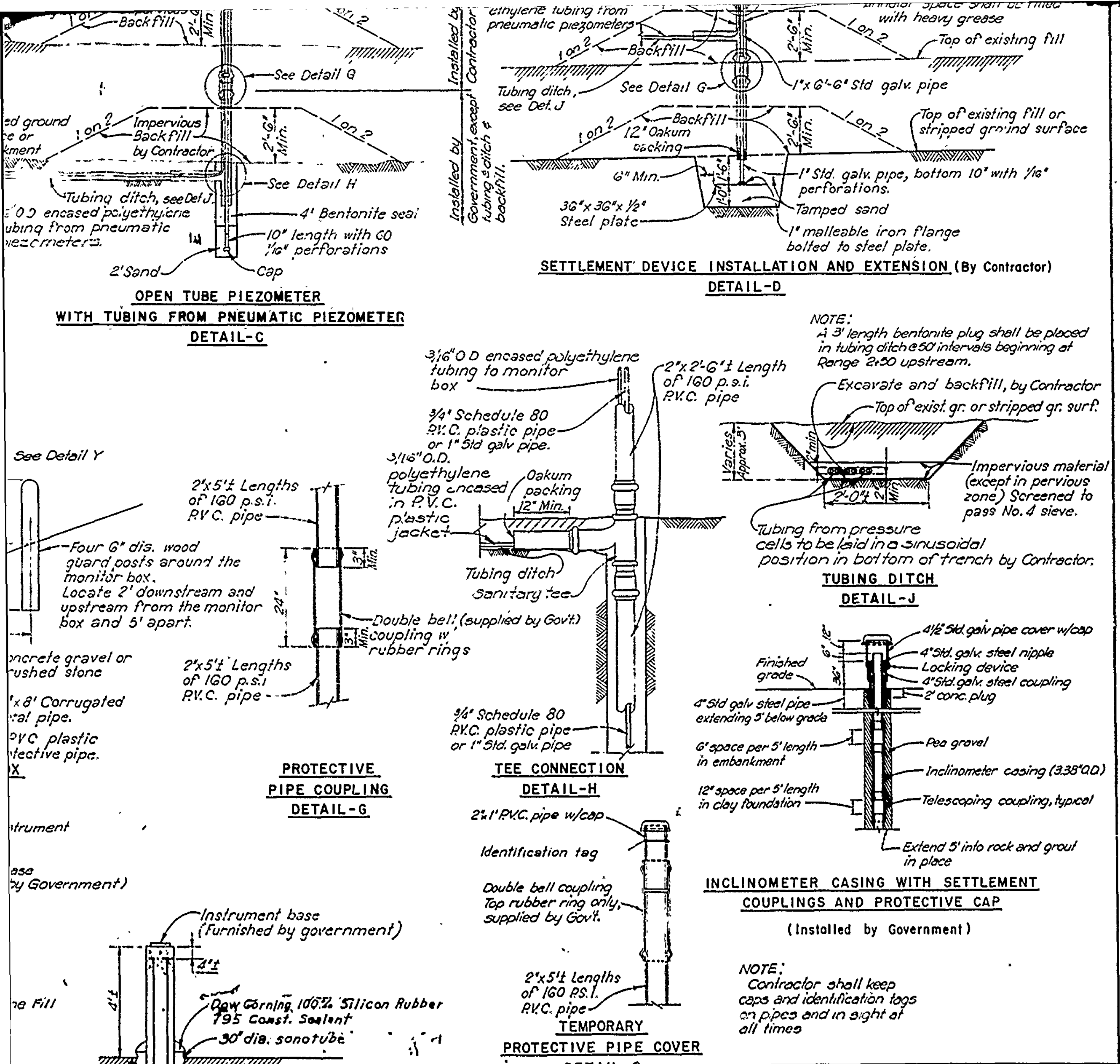
Scale: AS SHOWN
Date: JUNE 1990
Dwg. No.:
Sheet number: 84
File No. RBL-2-1304


VALUE ENGINEERING
See Detail O
3' Min
2" P.V.C. pipe coupling w/cap and identification tag. To be removed and installed on top of each extension. See Detail E for final extension
2" PVC plastic protective pipe in 5'± increments
3/4" Schedule 80 P.V.C. plastic pipe in 6'-6" increments.
Top of existing fill
1 on 2
Impervious Backfill
See Detail G
Installed by Contractor
Installed by Government
Stripped surface
Impervious Backfill by Contractor
4' Bentonite seal
Impervious material shall be used to backfill around piezometers in Limestone zone of embankment
2' Sand
Cap
10" length with 60 1/16" perforations
OPEN TUBE PIEZOMETER INSTALLATION AND EXTENSION
DETAIL-A
Encased tubing from upstream pneumatic piezometers
Tubing ditch, See Detail J
Impervious backfill or grout
2-3/16" O.D color coded polyethylene tubing with P.V.C jacket
4' Bentonite seal
6" to 8" dia borehole
Tip Elev
Pressure cell
2' Pervious
Sand
PNEUMATIC PIEZOMETER INSTALLATION
DETAIL-B
2" P.V.C. plastic protective pipe in 5'± increments
See Detail O
Top of existing fill
Stripped ground surface or embankment
Tubing ditch
3/16" O.D. encased polyethylene tubing from pneumatic piezometers.
WITH TUBING
1/8" Air hole bored thru cap
Pipe cover, 3 1/2" x 18" std. galv. pipe w/cap
Brass or aluminum identification plate Brazed, welded, bolted or riveted to coupling
Top of Piezometer pipe shall be threaded with a minimum of 6" stickup above nipple
3" x 6" Std. galv. nipple
3" x 8' Std. galv. steel pipe with pipe flange Flange on bottom
For locking device, see detail K
3" Std. galv. coupling
2" P.V.C. pipe (where applicable)
Ground surface or embankment
FINAL POSITION OF PIEZOMETERS
DETAIL-E
5/16" dia hole for padlock
3/16" Pl. Cover
1/4" Steel strap weld to C.M.P.
DETAIL-Y
1/2" Bolt w/90° bend @ top to allow cover to swing open
Bore 9/16" hole thru cover
Weld to strap
1 1/2" x 1/4" Steel strap weld to C.M.P.
24" C.M.P.
aluminum plate cover
DETAIL-X
PLAN
Cap with 1/8" air hole
See Detail X
See Detail Y
3/16" O.D Polyethylene tubing
3/4" P.V.C. plastic pipe or 1" Std galv pipe
Four 6" dia. guard posts monitor box. Locate 2' do upstream from box and 5' a
Concrete gravel or crushed stone
8-1/4" holes near middle of pipe for drainage
24" x 8' Corrugated metal pipe.
Sand
2" P.V.C. plastic protective pipe
MONITOR BOX
DETAIL-F
Smooth edges
3 1/2" galv. steel pipe
3" std. galv. steel coupling
1/4" R.
Smooth edges
LOCKING DEVICE
DETAIL K
1/2" Dia. holes for lock (must match)
Weld
3 1/2" x 18" galv. pipe with cap.
2 1/2" x 3/16" steel strip
3" std. galv. steel coupling
3" std. galv. steel pipe
LOCKING DEVICE
SECTION A'
Note:
Cold galv. welds and strips after welding
18" x 18" Level Instrument Base Pad
Instrument Base (Furnished by Government)
Concrete
Limestone Fill
SECTION
1 on 19
Level Instrument Base Pad
PLAN
Top of fill
Instrument base (Furnished by government)
Dow Corning 100% Silicon Rubber 795 Const. Sealant
Urethane Foam Caulking
4' Min
24" dia. corrugated metal pipe
18" dia. hole backfilled with concrete (5000# At 28 Days)
6-#4 Vertical Equally Spaced w/#3 Circumferential Horiz. Ties on 8" C-C.
SOIL FILL AREAS

VALUE ENGINEERING PAYS




See Detail G
Installed by Government
with P.V.C. jacket
Stripped surface
1 on 2
Impervious Backfill by Contractor
2'-6" Min
1 on 2
Impervious material shall be used to backfill around piezometers in Limestone zone of embankment
4' Bentonite seal
10" length with 60 1/16" perforations
2' Sand
Cap
OPEN TUBE PIEZOMETER INSTALLATION AND EXTENSION
DETAIL-A
4' Bentonite seal
6" to 8" dia borehole
Pressure cell
Sand
2' Pervious
Tip Elev
PNEUMATIC PIEZOMETER INSTALLATION
DETAIL-B
Stripped ground surface or embankment
1 on 2
Tubing ditch
3/16" O.D encased polyethylene tubing from pneumatic piezometers
2' Sand
OPEN
WITH TUBING
1/8" Air hole bored thru cap
Pipe cover, 3 1/2"x18" std. galv. pipe w/cap
Brass or aluminum identification plate Brazed, welded, bolted or riveted to coupling
Top of Piezometer pipe shall be threaded with a minimum of 6" stickup above nipple
3"x6" Std. galv. nipple
3"x8' Std galv. steel pipe with pipe flange flange on bottom
For locking device, see detail K
3" Std galv coupling
2" P.V.C pipe (where applicable)
Ground surface or embankment
FINAL POSITION OF PIEZOMETERS
DETAIL-E
5/16" dia hole for padlock
3/16" Pl. Cover
Steel strap weld to C.M.P.
DETAIL-Y
PLAN
Cap with 1/8" air hole
See Detail Y
See Detail X
3/16" O.D. Polyethylene tubing
3/4" P.V.C. plastic pipe or 1" Std galv pipe
Four 6" dia guard posts around monitor box. Locate 2 down upstream from box and 5' apart
1/2" Bolt w/90° bend @ top to allow cover to swing open
Bore 9/16" hole thru cover
Weld to strap
1 1/2"x1/4" Steel strap weld to C.M.P.
24" C.M.P.
aluminum plate cover
DETAIL-X
8-1/4" holes near middle of pipe for drainage
Sand
Concrete gravel or crushed stone
24"x8' Corrugated metal pipe.
2" P.V.C plastic protective pipe
MONITOR BOX
DETAIL-F
Smooth edges
3 1/2" galv. steel pipe
3" std. galv. steel coupling
1/4" R.
Smooth edges
LOCKING DEVICE
DETAIL K
1/2" Dia. holes for lock (must match)
Weld
3 1/2"x18" galv. pipe with cap.
2 1/2"x3/16" steel strip
3" std. galv. steel coupling
3" std. galv. steel pipe
LOCKING DEVICE
SECTION A'
Note: Cold galv. welds and strips after welding
18"x18" Level Instrument Base Pad
Instrument Base (Furnished by Government)
Concrete
Limestone Fill
SECTION
1 on 19
Level Instrument Base Pad
PLAN
LIMESTONE FILL AREA
Top of fill
Instrument base (Furnished by government)
Dow Corning 100% Silicon Rubber 795 Const. Sealant
Urethane Foam Caulking
4' Min
24" dia. corrugated metal pipe
18" dia. hole backfilled with concrete (5000# At 28 Days)
6-#4 Vertical Equally Spaced w/#3 Circumferential Horiz. Ties on 8" C-C.
SOIL FILL AREAS
ALINEMENT MONUMENTS
DETAIL-L
INSTRUMENT
DET



Revisions			
Symbol	Descriptions	Date	Approved

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

OBSERVATION DEVICE INSTALLATION DETAILS

Designed by:
Drawn by:
Checked by:
Submitted by:

Scale: AS SHOWN	Sheet number: 85		
Date: JUNE 1990			
Dwg. No.:		File No.: RBL-2-1305	

BLUE SPRINGS BLASTING

SHOT NO.	DATE	GEOLOGIC LOCATION	ELEV.	LOCATION STATION	LOCATION RANGE	PURPOSE	NO. OF HOLES	DEPTH (FT.)	SPACING (FT.)	BURDEN (FT.)	STEM (FT.)	SHOT VOL.	EX
1	10/22/82	BETHANY FALLS LIMESTONE	853-843	99+85		PRE-SPLIT	24	8'-16'	20"	0	TOTAL		560' 200 GR. 40' E
2	10/26/82	BETHANY FALLS LIMESTONE	858	99+85	34' DS TO 91 US	PRE-SPLIT	62	20'	2'	0	TOTAL	2125 SQ.FT.	1600' 200 GR. 13(
3	11/16/82	BETHANY FALLS LIMESTONE	846	72+75	45' US TO 40' DS	PRE-SPLIT	48	18'-20'	20"	0	TOTAL ¾" GRAVEL	1805 SQ.FT.	1200' 200 GR. 10(
4	11/17/82	SNIABAR	832	99+26	103' DS TO 63' US	PRE-SPLIT	100	7.3'-9'	20"	0	TOTAL	1253 SQ.FT.	1100' 200 GR. 175
5	11/22/82	SNIABAR	832	99+25	45' US TO 50' DS	PRE-SPLIT	57	7'-9'	20"	0	TOTAL ¾" GRAVEL	713 SQ.FT.	500' 200 GR 100'
6	11/22/82	SNIABAR	832	99+26	16' DS TO 16' US	PRE-SPLIT	19	8.5'	20"	0	TOTAL ¾" GRAVEL	272 SQ.FT.	400' 200 GR. 40' E
7	12/8/82	BETHANY FALLS LIMESTONE	846	73+35-73+85	60' US	PRE-SPLIT	28	14'-19'	20"	0	TOTAL ¾" GRAVEL	850 SQ.FT.	500' 200 GR. 60' E
8	12/9/82	BETHANY FALLS LIMESTONE	846	73+35-72+75	60 DS TO 40' DS	PRE-SPLIT	41	17'	20"	0	TOTAL ¾" GRAVEL	1146 SQ.FT.	850' 200 GR. 75' E
9	12/14/82	BETHANY FALLS LIMESTONE	841	72+75	45 US TO 60' US	PRE-SPLIT	12	8'-12'	20"	0	TOTAL ¾" GRAVEL	200 SQ.FT.	250' 200 GR. 25' E
10	12/16/82	WINTERSET		17+50-18+70	LEFT SIDE	PRE-SPLIT	72	12'-16'	0	20"-36"	¾" GRAVEL	2271 SQ.FT.	1700' 200 GR. 50(
1	11/2/82	BETHANY FALLS LIMESTONE	854	99+85-99+20	100' US TO 65 DS	PRODUCTION	84	8'-14'	10'-8'	7'-6'	4½'	1750 CU.YDS.	1275* MAYNES 18
2	11/3/82	BETHANY FALLS LIMESTONE	855±	14+80-14+50	℄ TO 115 RT.	PRODUCTION	43	7'-11'	9'	7'	4½'	920 CU.YDS.	500* MAYNES 11
3	11/4/82	BETHANY FALLS LIMESTONE	855±	14+80-14+50	℄ TO 90' LT	PRODUCTION	42	5'-9'	9'	7'	5'	595 CU.YDS.	450* MAYNES 50*
4	11/8/82	BETHANY FALLS LIMESTONE	855	15+75-15+10	100' LT. TO 100' RT.	PRODUCTION	143	16'	10'	7'	5'	7100 CU.YDS.	5050* MAYNES 4(
5	11/18/82	BETHANY FALLS LIMESTONE	860	15+75-16+25	100' LT. TO 100' RT.	PRODUCTION	54	18.5'	16'	12'	9'	6465 CU.YDS.	6500* MAYNES 10
6	12/8/82	SNIABAR	832	99+26	97' US TO 72' DS	PRODUCTION	60	7.5'	7'	5'	4½'	798 CU.YDS.	425* UNIGEL
7	12/13/82	BETHANY FALLS LIMESTONE		16+25 16+73	100' LT TO 108 RT	PRODUCTION	42-29	19' 19'	16'-10'	12'-7'	8½' 4'	7000 CU.YDS.	9815* MAYNES 5(
8	12/14/82	BETHANY FALLS LIMESTONE	842-836	72+75-73+85	60' US TO 60' DS	PRODUCTION	127	6'-14'	9'	7'	4'	2900 CU.YDS.	2000* MAYNES 5
9	12/20/82	WINTERSET		17+50-17+90	108' LT. TO ℄	PRODUCTION	129	5½'-8'	7'-10'	6'	4'	1360 CU.YDS.	1450* MAYNES 7(
10	12/22/82	WINTERSET		17+90-18+35	120' LT. TO ℄	PRODUCTION	137	8.7'	7'-10'	6'	4'	2665 CU.YDS.	2400* MAYNES 4
11	12/23/82	WINTERSET		18+35-18+90	30' LT. 120' LT.	PRODUCTION	91	10'	10'	6'	4'	1978 CU.YDS.	1750* MAYNES 1
11	1/12/83	BETHANY FALLS LIMESTONE		72+75	50'-115' DS	PRE-SPLIT	32	6'-15'	2'		¾" GRAVEL	480 SQ.FT.	600' 200 GRAIN 70
12	1/25/83	SNIABAR	828.5	73+15-73+80	20' LT. TO 20' RT.	PRE-SPLIT	139	9'	20"			2115 SQ.FT.	1700' 200 GRAIN 2
13	1/28/83	SNIABAR		74+00	45'-157' DS	PRE-SPLIT	67	9'	20"		¾" GRAVEL	1008 SQ.FT.	1000' 200 GRAIN 1
14	2/4/83	BETHANY FALLS LIMESTONE	841	72+50	121' US TO 73' DS	PRE-SPLIT	96	18'	2'		¾" GRAVEL	3456 SQ.FT.	2100' 200 GRAIN 2
15	3/10/83	WINTERSET		18+32 19+41	LEFT SIDE	PRE-SPLIT	39	14'	30"		¾" GRAVEL	1350 SQ.FT.	1500' 200 GRAIN 1
16	3/18/83	WINTERSET		18+00-20+80	LEFT SIDE	PRE-SPLIT	94	5'-11½'	30"		¾" GRAVEL	2940 SQ.FT.	2000' 200 GRAIN
16A	3/23/83	WINTERSET		20+80-22+70	RIGHT SIDE	PRE-SPLIT	51	8'-15'	30"		CRUSHED STONE	1500 SQ.FT.	850' 200 GRAIN 15
17	3/23/83	WINTERSET		20+80-22+70	RIGHT SIDE	PRE-SPLIT	51	8'-15'	30"		CRUSHED STONE	1500 SQ.FT.	850' 200 GRAIN 15
18	3/28/83	PLEASANTON	785	52+47-51+06		PRE-SPLIT	53	12'	2'-3'		TOTAL, STONE	1692 SQ.FT.	1350' 200 GRAIN 1
19	3/31/83	PLEASANTON	785	51+06 47+00	75+03 DAM AXIS	PRE-SPLIT	155	12'	2'-2½'		¾" STONE	4872 SQ.FT.	4000' 200 GRAIN
20	4/15/83	PLEASANTON		11+88-10+50		PRE-SPLIT	46	12'	2½'-3'		¾" STONE	1656 SQ.FT.	100' 200 GRAIN 78
21	4/18/83	PLEASANTON		10+50-9+48		PRE-SPLIT	25	12'	30"		¾" STONE	780 SQ.FT.	430' 200 GRAIN
22	4/26/83	BETHANY FALLS LIMESTONE		12+88-14+02	RIGHT SIDE	PRE-SPLIT	35	7-13	2'-3'		¾" GRAVEL	756 SQ.FT.	400' 200 GRAIN 30
23	5/5/83	BETHANY FALLS LIMESTONE		14+05-16+08	195' RT. OF ℄	PRE SPLIT	55	13'-20	2½'-3'		¾" GRAVEL	2288 SQ.FT.	400' 200 GRAIN 95
24	5/9/83	BETHANY FALLS LIMESTONE		16+09 17+00	195' RT. OF ℄	PRE-SPLIT	26	20	30"		¾" ROCK	1900 SQ.FT.	325' 200 GRAIN 36
25	5/17/83	BETHANY FALLS LIMESTONE		25+18 24+50	195 RT. OF ℄	PRE-SPLIT	29	18'	2½'-3'		¾" GRAVEL	1224 SQ.FT.	700' 200 GRAIN 27
26	5/19/83	BETHANY FALLS LIMESTONE		24+50-23+05	195' RT. OF ℄	PRE-SPLIT	47	21'	3'		6'	2961 SQ.FT.	1250' E CORD 225*
27	5/23/83	BETHANY FALLS LIMESTONE		20+70-20+30	210' LT. OF ℄	PRE-SPLIT	63	18'	2½'-3'		¾" GRAVEL	3150 SQ.FT.	1512' 200 GRAIN 5
28	5/24/83	BETHANY FALLS LIMESTONE		21+70-20+00	210' LT. OF ℄	PRE-SPLIT	14	22'	2½'-3'		¾" GRAVEL	814 SQ.FT.	460' 200 GRAIN 12
29	6/1/83	BETHANY FALLS LIMESTONE		15+35-17+00	210' LT. OF ℄	PRE-SPLIT	82	13.3'	30"		¾" GRAVEL	2127 SQ.FT.	2400' 200 GRAIN 2
30	7/22/83	BETHANY FALLS LIMESTONE		16+93 18+00	210' LT. OF ℄	PRE-SPLIT	52	21	2½'-3'		¾" GRAVEL	2919 SQ.FT.	1700' 200 GRAIN 6
31	7/26/83	BETHANY FALLS LIMESTONE		17+00-18+00	195' RT. OF ℄	PRE-SPLIT	25	21	3'		6'	1575 SQ.FT.	120* HERCOSPLIT
12	1/4/83	WINTERSET		18+90 19+50	30 RT. OF PRE-SPL.	PRODUCTION	112	7.3'	7'-10'	5'-6'	4'	1232 CU.YDS.	1100* MAYNES 175
13	1/5/83	WINTERSET		17+40-17+80	90' LT. OF ℄	PRODUCTION	118	5.6'	7'	5'	4'	820 CU.YDS.	600* UNIGEL 15* M
14	1/6/83	WINTERSET		17+90-18+70	℄ TO 100 LT.	PRODUCTION	157	9.1'	10'	6'-7'	4'	3400 CU.YDS.	2800* MAYNES 550
15	1/11/83	WINTERSET		18+70-19+50	100' 200' LT. OF PRE-SPL.	PRODUCTION	128	7'-10½	9'-10'	5'-10'	4'	2900 CU.YDS.	2325* MAYNES 175
16	1/13/83	BETHANY FALLS LIMESTONE		92+15-93+70	40 DS TO 130 DS	PRODUCTION	122	8'	9'	6'	4'	2560 CU.YDS.	1750* MAYNES 175
17	1/17/83	WINTERSET		19+50	100'-200' RT. OF LT. PRE-SPL.	PRODUCTION	172	6.4'	6'-9'	5½'	4'	2300 CU.YDS.	1415* MAYNES 200
18	1/18/83	WINTERSET		17+50-18+00	200'-300' RT. OF LT. PRE-SPL.	PRODUCTION	146	5½'-7'	7'-9'	5'	4'	1320 CU.YDS.	800* MAYNES 445*
19	1/20/83	WINTERSET		18+00-18+60	200'-300' RT. OF LT. PRE-SPL.	PRODUCTION	137	9'	9'-10'	6'	4'	2160 CU.YDS.	2100* MAYNES 150
20	1/31/83	SNIABAR		73+20-74+25	35' DS TO 60' US	PRODUCTION	105	6.5'			4'	820 CU.YDS.	450* MAYNES 650*
21	2/2/83	SNIABAR		74+00-74+27	30'-155' DS	PRODUCTION	68	7'	7	5'	4'	1135 CU.YDS.	250* MAYNES 375*
22	2/8/83	BETHANY FALLS LIMESTONE		72+50 72+75	170 US TO 80 DS	PRODUCTION	127	7'-14'				2400 CU.YDS.	2250* MAYNES 250'
23	2/10/83	WINTERSET		18+50-19+25	50' LT TO 50' RT OF ℄	PRODUCTION	116	12.3'	10'	7'	4'	3400 CU.YDS.	3850* MAYNES 200'
24	2/11/83	WINTERSET		19+75 20+25	200'-300' RT. OF PRE-SPL.	PRODUCTION	93	10.2'	10'	7'	4'	2390 CU.YDS.	2200* MAYNES 225'
25	2/22/83	WINTERSET		20+00 20+50	200 300 LT. OF PRE-SPL.	PRODUCTION	176	6.6	6'	7'	4'	1660 CU.YDS.	1400* MAYNES 550'
26	2/25/83	WINTERSET		17+50-18+00	60' LT. TO 155 LT.	PRODUCTION	108	6.2'	7	5'	4'	995 CU.YDS.	475* UNIGEL 50* M
27	3/1/83	WINTERSET		18+00-18+55	70' RT. TO 110' RT. OF PRESPLIT	PRODUCTION	113	8.1'	9'	6'	4'	1620 CU.YDS.	1450* MAYNES 550'
28	3/3/83	WINTERSET		18+50-19+25		PRODUCTION	124	11.0	10'	7'	4'	3600 CU.YDS.	3500* MAYNES 150'
29	3/11/83	WINTERSET		18+30-19+60		PRODUCTION	35	5' 1'	7'	5'	4'	760 CU.YDS.	500* MAYNES 41* (
30	3/11/83	WINTERSET		19+50-20+00	℄ TO 100' RT	PRODUCTION	107	10.7'	10'	6'	4'	2354 CU.YDS.	2625* MAYNES 150'
31	3/15/83	WINTERSET		20+50-21+50	100' RT TO ℄	PRODUCTION	21	6.8'	9	6'	4'	2700 CU.YDS.	2400* MAYNES 250'
32	3/24/83	WINTERSET		21+50 22+50	TO 150' LT OF PRESPLIT	PRODUCTION	220	6.2'	8'	6'	4'	2600 CU.YDS.	1600* MAYNES 400'
33	3/25/83	WINTERSET			RT. SIDE TO 122' RT.	PRODUCTION	102	8'	9'	6'	4'	1724 CU.YDS.	1500* MAYNES 200'
34	3/29/83	PLEASANTON	785	52+47-51+55	EDGE TO 85' LT.	PRODUCTION	142	8'	9'	6'	4'	2281 CU.YDS.	1950* MAYNES 150'
35	4/6/83	PLEASANTON	785	47+50-49+00	75+00-76+00 DAM STA	PRODUCTION	153	8'	9'	6'	4'	2400 CU.YDS.	1900* MAYNES 75*
36	4/7/83	PLEASANTON	785	49+08-50+00	75+00-75+95 DAM STA	PRODUCTION	160	9'	9'	6'	4'	2480 CU.YDS.	2400* MAYNES 275'
37	4/8/83	PLEASANTON	785	50+00-50+90	75+00-76+00	PRODUCTION	166	8'	9'	6'	4'	2750 CU.YDS.	2650* MAYNES 275'
38	4/11/83	PLEASANTON	785	50+90-51+62		PRODUCTION	134	8'	9'	6'	4'	2280 CU.YDS.	2100* MAYNES 200'
39	4/18/83	PLEASANTON		11+88-10+00		PRODUCTION	108	8'	9'	6'	4'	1750 CU.YDS.	1900* MAYNES 150'
40	4/20/83	WINTERSET		19+50-21+00		PRODUCTION	147	8'	9	6'	4'	2400 CU.YDS.	1225* MAYNES 1050
41	4/21/83	WINTERSET		19+50-18+50		PRODUCTION	103	6.5	8'	5'	4'	1092 CU.YDS.	525* MAYNES 450*
42	4/25/83	WINTERSET				PRODUCTION	51	5'	7'	5'	4'	360 CU.YDS.	75* MAYNES 150* (
43	5/3/83	BETHANY FALLS LIMESTONE		13+12-13+75	195' TO 95' RT. ℄	PRODUCTION	76	9'	8'	6'	4'	2016 CU.YDS.	550* MAYNES 625*
44	5/3/83	BETHANY FALLS LIMESTONE		14+02 14+50	195' TO 100' RT. ℄	PRODUCTION	59	12'	10'	6	4'	1750 CU.YDS.	1700* MAYNES 175*
45	5/10/83	BETHANY FALLS LIMESTONE		14+50 15+30	195 TO 110' RT. ℄	PRODUCTION	72	15'	10'	7	4'	2940 CU.YDS.	3300* MAYNES 400*
46	5/11/83	BETHANY FALLS LIMESTONE		15+30-16+00	195' TO 110' RT. ℄	PRODUCTION	43	18'	10'	8'	4	2314 CU.YDS.	2450* MAYNES 200*
47	6/2/83	BETHANY FALLS LIMESTONE		15+35-15+75	210 TO 95 LT ℄	PRODUCTION	130	9'	10'	6	4'	2160 CU.YDS.	1450* MAYNES 375*
48	6/7/83	BETHANY FALLS LIMESTONE		15+75-16+25	210 TO 100 LT ℄	PRODUCTION	134	13'	9'	7'	4'	3500 CU.YDS.	3150* MAYNES 1125
49	6/10/83	BETHANY FALLS LIMESTONE		16+25 16+70	210 LT TO 60 LT ℄	PRODUCTION	98	17	10	7'	4'	4628 CU.YDS.	4925* MAYNES 237*

VALUE ENGINEERING PAYS

3	2	1

E SPRINGS BLASTING REPORT

SHOT VOL.	EXPLOSIVES (LBS.)	NO. OF CAPS	DELAYS IN MILI/SEC	CARTRIDGE STRENGTH	REMARKS
	560' 200 GR. 40' E CORD	2	0	PRIMACORD, ENSIGN BICKFORD	NORMAL TO DAM AXIS; 3" HOLES
2125 SQ. FT.	1600' 200 GR. 130' E CORD	2	0	PRIMACORD	NORMAL TO DAM; 3" HOLES
1805 SQ. FT.	1200' 200 GR. 100' E CORD	2	0	PRIMACORD	3" HOLES, NORMAL TO AXIS
1253 SQ. FT.	1100' 200 GR. 175' E CORD	1	0	PRIMACORD	NORMAL TO DAM; 3 1/2" HOLES
713 SQ. FT.	500' 200 GR. 100' E CORD	1	0	PRIMACORD	3 1/2" HOLES, NORMAL TO DAM, RESHOOT 4
272 SQ. FT.	400' 200 GR. 40' E CORD	1	0	PRIMACORD	3 1/2" HOLES, NORMAL TO AXIS, RESHOOT 4
850 SQ. FT.	500' 200 GR. 60' E CORD	1	0	PRIMACORD	3" PARALLEL TO AXIS
1146 SQ. FT.	850' 200 GR. 75' E CORD	1	0	PRIMACORD	3" HOLES, PARALLEL AND AT ANGLE TO DAM AXIS
200 SQ. FT.	250' 200 GR. 25' E CORD	1	0	PRIMACORD	NORMAL TO AXIS, 3" HOLES
2271 SQ. FT.	1700' 200 GR. 500' E CORD 67 LBS.	1	0	PRIMACORD, 7/8"X2' HERCULES HERCOSPLIT	3 HOLES, LEFT SIDE OF SPILLWAY
1750 CU. YDS.	1275# MAYNES 181# UNIGEL	84	0-9	50# SACKS MAYNES MIX #1, UNIGEL 2"X8" AND 2 1/4" X 16"	3 1/2" HOLES, POWDER FACTOR 0.83
920 CU. YDS.	500# MAYNES 112# UNIGEL	43	0-7	50# SACKS MAYNES MIX #1, HERCULES UNIGEL 2"X8", 2 1/4"X16"	3 1/2" HOLES, SPILLWAY 0.67 LBS./YD.
595 CU. YDS.	450# MAYNES 50# UNIGEL	42	0-7	50# SACKS MAYNES MIX #1, HERCULES UNIGEL 2"X8"	3 1/2" HOLES, SPILLWAY 0.76 LBS./YD.
7100 CU. YDS.	5050# MAYNES 400# UNIGEL	143	0-11	50# SACKS MAYNES, 2"X8" AND 2 1/4"X16" HERCULES UNIGEL	3 1/2" HOLES, SPILLWAY 0.77 LBS./YD.
6465 CU. YDS.	6500# MAYNES 100# UNIGEL 105# TITAN G BOOSTER	54	0-8	50# SACKS MAYNES, 2"X8" AND 2 1/4"X16" UNIGEL, 2"X4" TITAN	6 1/4" HOLES, SPILLWAY 1.04 LBS./YD.
798 CU. YDS.	425# UNIGEL	60	0-10	HERCULES UNIGEL 2 1/4"X16" AND 2"X8"	3 1/2" HOLES, POWDER FACTOR 0.53
7000 CU. YDS.	9815# MAYNES 50# UNIGEL 40# TITAN	71	0-8	50# SACKS MAYNES MIX #1, 5 1/2"X30" MAYNES MIX CTG., 2"X8" HERCULES UNIGEL, 3"X3" TITAN G BOOSTER	3 1/2" & 6 1/4" HOLES, SPILLWAY
900 CU. YDS.	2000# MAYNES 550# UNIGEL	127	0-12	50# SACKS OF MAYNES MIX #1, UNIGEL 2"X8" AND 2 1/4"X16"	3-3 1/2" HOLES, 0.88 POWDER FACTOR
360 CU. YDS.	1450# MAYNES 700# UNIGEL	129	0-8	50# SACKS OF MAYNES MIX #1, UNIGEL 2"X8" AND 2 1/4"X16"	3 1/2" HOLES, SPILLWAY 1.58 POWDER FACTOR MEASURED OFF PRESPLIT
665 CU. YDS.	2400# MAYNES 475# UNIGEL	137	0-11	50# SACKS OF MAYNES MIX #1, UNIGEL 2"X8" AND 2 1/4"X16"	3 1/2" HOLES, SPILLWAY 1.08 POWDER FACTOR MEASURED OFF PRESPLIT
978 CU. YDS.	1750# MAYNES 125# UNIGEL	91	0-9	50# SACKS OF MAYNES MIX #1, UNIGEL 2"X8" AND 2 1/4"X16"	3 1/2" HOLES, SPILLWAY, MEASURED OFF PRESPLIT
480 SQ. FT.	600' 200 GRAIN 70' E CORD	1	0	ENSIGN BICKFORD PRIMACORD	3" HOLES
2115 SQ. FT.	1700' 200 GRAIN 250' E CORD	2	0	PRIMACORD	3" HOLES
1008 SQ. FT.	1000' 200 GRAIN 150' E CORD	2	0	PRIMACORD	3" HOLES
3456 SQ. FT.	2100' 200 GRAIN 200' E CORD	1	0	PRIMACORD	3" HOLES
1350 SQ. FT.	1500' 200 GRAIN 110' E CORD	1	6	PRIMACORD	3" HOLES, SPILLWAY
2940 SQ. FT.	2000' 200 GRAIN	2	0-1	PRIMACORD	3" HOLES, SPILLWAY
1500 SQ. FT.	850' 200 GRAIN 150' E CORD	1	0	PRIMACORD	3" HOLES, SPILLWAY
1500 SQ. FT.	850' 200 GRAIN 150' E CORD	1	2	PRIMACORD	3" HOLES, SPILLWAY
1692 SQ. FT.	1350' 200 GRAIN 150' E CORD	1	0	PRIMACORD	3" HOLES, OUTLET WORKS
1872 SQ. FT.	4000' 200 GRAIN	2	0-1	PRIMACORD	3" HOLES, OUTLET WORKS
1656 SQ. FT.	100' 200 GRAIN 780' E CORD 92# HERCOSPLIT	1	0	PRIMACORD, 7/8"X2' HERCULES HERCOSPLIT	3" HOLES, N. SERVICE ROAD
780 SQ. FT.	430' 200 GRAIN	1	0	PRIMACORD	3" HOLES, N. SERVICE ROAD
756 SQ. FT.	400' 200 GRAIN 300' E CORD 40# HERCOSPLIT	1	0	PRIMACORD, 7/8"X2' HERCULES HERCOSPLIT	SPILLWAY 195' FROM ℄, 3" HOLES
1289 SQ. FT.	400' 200 GRAIN 950' E CORD 185# HERCOSPLIT	1	0	PRIMACORD, 7/8"X2' HERCULES HERCOSPLIT	3" HOLES, SPILLWAY
900 SQ. FT.	325' 200 GRAIN 360' E CORD 54# HERCOSPLIT	1	0	PRIMACORD, 7/8"X2' HERCULES HERCOSPLIT	3" HOLES, SPILLWAY
224 SQ. FT.	700' 200 GRAIN 275' E CORD 50# HERCOSPLIT	1	0	PRIMACORD, 7/8"X2' HERCULES HERCOSPLIT	3" HOLES, SPILLWAY
961 SQ. FT.	1250' E CORD 225# HERCOSPLIT	1	0	PRIMACORD, 7/8"X2' HERCULES HERCOSPLIT	3" HOLES, SPILLWAY
1150 SQ. FT.	1512' 200 GRAIN 515' E CORD 71.4# HERCOSPLIT	1	0	PRIMACORD, 7/8"X2' HERCULES HERCOSPLIT	3" HOLES, SPILLWAY
814 SQ. FT.	460' 200 GRAIN 125' E CORD 19.2# HERCOSPLIT	1	0	PRIMACORD, 7/8"X2' HERCULES HERCOSPLIT	3" HOLES, SPILLWAY
1727 SQ. FT.	2400' 200 GRAIN 220' E CORD	1	0	PRIMACORD, 7/8"X2' HERCULES HERCOSPLIT	3" HOLES, LT. SIDE OF SPILLWAY
1919 SQ. FT.	1700' 200 GRAIN 600' E CORD 78# HERCOSPLIT	1	14	PRIMACORD, 7/8"X2' HERCULES HERCOSPLIT	3" HOLES, SPILLWAY
575 SQ. FT.	120# HERCOSPLIT	1	18	PRIMACORD, 7/8"X2' HERCULES HERCOSPLIT	3" HOLES, SPILLWAY
232 CU. YDS.	1100# MAYNES 175# UNIGEL	112	0-8	50# SACKS OF MAYNES MIX #1, UNIGEL 2"X8" AND 2 1/4"X16"	3 1/2" HOLES, SPILLWAY 1.03 LBS./YD.
20 CU. YDS.	600# UNIGEL 15# MAYNES HERCOMIX #1	118	0-9	50# SACKS OF MAYNES MIX #1, UNIGEL AND 2 1/4"X16"	3 1/2" HOLES, SPILLWAY 0.15 LBS./YD.
00 CU. YDS.	2800# MAYNES 550# UNIGEL	157	0-13	50# SACKS OF MAYNES MIX #1, UNIGEL 2"X8" AND 2 1/4"X16"	3 1/2" HOLES, SPILLWAY 0.99 LBS./YD.
00 CU. YDS.	2325# MAYNES 175# UNIGEL	128	0-12	50# SACKS OF MAYNES MIX #1, UNIGEL 2"X8" AND 2 1/4"X16"	3 1/2" HOLES, SPILLWAY 0.86 LBS./YD.
60 CU. YDS.	1750# MAYNES 175 UNIGEL	122	0-12	50# SACKS OF MAYNES MIX #1, UNIGEL 2"X8" AND 2 1/4"X16"	3 1/2" HOLES, SPILLWAY 0.77 LBS./YD. POWDER FACTOR
00 CU. YDS.	1475# MAYNES 200# UNIGEL	172	0-12	50# SACKS OF MAYNES MIX #1, 2"X8" HERCULES UNIGEL	3 1/2" HOLES, SPILLWAY 0.73 #/YD.
120 CU. YDS.	800# MAYNES 445# UNIGEL	146	0-12	50# SACKS OF MAYNES MIX #1, 2"X8" AND 2 1/4"X16" UNIGEL	3 1/2" HOLES, SPILLWAY 0.93 #/YD.
60 CU. YDS.	2700# MAYNES 150# UNIGEL	137	0-12	50# SACKS OF MAYNES MIX #1, 2"X8" AND 2 1/4"X16" UNIGEL	3 1/2" HOLES, LEFT SIDE OF SPILLWAY, 1.32 #/YD.
20 CU. YDS.	450# MAYNES 650# UNIGEL	105	0-7	50# SACKS OF MAYNES MIX #1, 2"X8" AND 2 1/4"X16" UNIGEL	3 1/2" HOLES, 1.34 #/YD. POWDER FACTOR
35 CU. YDS.	250# MAYNES 375# UNIGEL	68	0-13	50# SACKS OF MAYNES MIX #1, 2"X8" AND 2 1/4"X16" UNIGEL	3 1/2" HOLES, 0.55 #/YD.
00 CU. YDS.	2250# MAYNES 250# UNIGEL	127	0-13	50# SACKS OF MAYNES MIX #1, 2 1/4"X16" AND 2"X8" UNIGEL	3 1/2" HOLES, 1.04 #/YD.
00 CU. YDS.	3850# MAYNES 200# UNIGEL	116	0-14	50# SACKS OF MAYNES MIX #1, 2"X8" AND 2 1/4"X16" UNIGEL	3 1/2" HOLES, SPILLWAY 1.19#/YD.
90 CU. YDS.	2200# MAYNES 225# UNIGEL	99	0-13	50# SACKS OF MAYNES MIX #1, 2"X8" AND 2 1/4"X16" UNIGEL	3 1/2" HOLES, SPILLWAY 1.01 #/YD.
50 CU. YDS.	1400# MAYNES 550# UNIGEL	116	0-13	50# SACKS OF MAYNES MIX #1, 2 1/4"X16" AND 2"X8" UNIGEL	3 1/2" HOLES, LEFT SIDE OF SPILLWAY, 1.17 #/YD.
35 CU. YDS.	475# UNIGEL 50# MAYNES	108	0-13	50# SACKS OF MAYNES MIX #1, 2 1/4"X16" AND 2"X8" UNIGEL	3 1/2" HOLES, RIGHT PRE-SPLIT IN SPILLWAY 0.53 #/YD.
[illegible] CU. YDS.	1450# MAYNES 550# UNIGEL	113	0-13	50# SACKS OF MAYNES MIX #1, 2 1/4"X16" AND 2"X8" UNIGEL	RT. PRESPLIT LINE OF SPILLWAY, 3 1/2" HOLES 1.25 #/YD.
00 CU. YDS.	3500# MAYNES 150# HERCODYNE 325	124	0-13	50# SACKS OF MAYNES MIX #1, 2"X8" HERCULES UNIGEL	3 1/2" HOLES, SPILLWAY 1.01 #/YD POWDER FACTOR
50 CU. YDS.	500# MAYNES 41# UNIGEL	35	0-8	50# SACKS OF MAYNES MIX #1, 2"X8" HERCULES UNIGEL	3 1/2" HOLES, NEXT TO PRE-SPL ON LEFT SIDE OF SPILLWAY, 0.11#/YD
54 CU. YDS.	2625# MAYNES 150# UNIGEL	107	0-13	50# SACKS OF MAYNES MIX #1, 2"X8" HERCULES UNIGEL	3 1/2" HOLES, SPILLWAY
00 CU. YDS.	2400# MAYNES 250# 325 125# UNIGEL	217	0-13	50# SACKS OF MAYNES MIX #1, 2"X8" HERCODYNE 325, 2 1/4"X16" UNIGEL	3 1/2" HOLES, SPILLWAY 1.03#/YD
[illegible] CU. YDS.	1600# MAYNES 400# UNIGEL 206# 325	220	0-15	50# SACKS OF MAYNES MIX #1, 2"X8" HERCODYNE 325, 2 1/4"X16" UNIGEL	3 1/2" HOLES, RIGHT SIDE OF SPILLWAY 0.85#/YD.
[illegible] CU. YDS.	1500# MAYNES 200# UNIGEL 150# 325	102	0-12	50# SACKS OF MAYNES MIX #1, 2 1/4"X16" HERCODYNE 325, 2"X8" UNIGEL	3 1/2" HOLES, RIGHT SIDE OF SPILLWAY 1.07#/YD.
[illegible] CU. YDS.	1950# MAYNES 150# 325 125# UNIGEL	142	0-11	50# SACKS OF MAYNES MIX #1, 2 1/4"X16" UNIGEL, 2"X8" HERCODYNE 325	3 1/2" HOLES, OUTLET WORKS RT. PRESPLIT LINE 0.98#/YD.
[illegible] CU. YDS.	1900# MAYNES 75# 325 425# UNIGEL	153	0-15	50# SACKS MAYNES MIX #1, 2"X8" 325 HERCODYNE, 2 1/4"X16" HERCULES UNIGEL	3 1/2" HOLES, OUTLET WORKS, 0.87#/YD.
80 CU. YDS.	2400# MAYNES 275# UNIGEL	160	0-13	50# SACKS MAYNES MIX #1, 2"X8" UNIGEL 2 1/4"X16" UNIGEL	3 1/2" HOLES, OUTLET WORKS, 1.08#/YD.
50 CU. YDS.	2650# MAYNES 275# UNIGEL	166	-	50# SACKS MAYNES MIX #1, 2"X8" AND 2 3/4"X16" UNIGEL	3 1/2" HOLES, OUTLET WORKS, 1.06#/YD.
83 CU. YDS.	2100# MAYNES 200# UNIGEL	134	0-10	50# SACKS MAYNES MIX #1, 2"X8" AND 2 1/4"X16" UNIGEL	3 1/2" HOLES, OUTLET WORKS, 1.01#/YD.
50 CU. YDS.	1900# MAYNES 150# UNIGEL	108	0-11	50# SACKS MAYNES MIX #1, 2"X8" HERCULES UNIGEL	3 1/2" HOLES, NO. SERVICE RD., 1.17#/YD.
30 CU. YDS.	1225# MAYNES 1050# UNIGEL	147	0-13	50# SACKS MAYNES MIX #1, 2"X8" AND 2 1/4"X16" UNIGEL	3 1/2" HOLES, SPILLWAY 0.95#/YD.
12 CU. YDS.	525# MAYNES 450# UNIGEL	103	0-13	50# SACKS MAYNES MIX #1, 2"X8" AND 2 1/4"X16" UNIGEL	3 1/2" HOLES, SPILLWAY 0.39#/YD.
0 CU. YDS.	75# MAYNES 150# UNIGEL	51	0-7	50# SACKS MAYNES MIX #1, 2"X8" AND 2 1/4"X16" UNIGEL	3 1/2" HOLES, SPILLWAY 0.63#/YD.
6 CU. YDS.	550# MAYNES 625# UNIGEL	76	0-10	50# SACKS MAYNES MIX #1, 2"X8" AND 2 1/4"X16" UNIGEL	3 1/2" HOLES, SPILLWAY 0.58#/YD.
50 CU. YDS.	1700# MAYNES 175# UNIGEL	59	-	50# SACKS MAYNES MIX #1, 2 1/4"X16" AND 2"X8" UNIGEL	3 1/2" HOLES, SPILLWAY 1.01#/CAL.
40 CU. YDS.	3300# MAYNES 400# UNIGEL	72	0-9	50# SACKS MAYNES MIX #1, 2"X8" AND 2 1/4"X16" UNIGEL	3 1/2" HOLES, SPILLWAY 1.26#/YD.
4 CU. YDS.	2450# MAYNES 200# UNIGEL	43	0-6	50# SACKS MAYNES MIX #1, 2"X8" AND 2 1/4"X16" HERCULES UNIGEL	3 1/2" HOLES, 1.15#/YD. SPILLWAY
30 CU. YDS.	1450# MAYNES 375# UNIGEL	130	0-13	50# SACKS MAYNES MIX #1, 2"X8" AND 2 1/4"X16" UNIGEL	3 1/2" HOLES, 0.94#/YD. SPILLWAY
30 CU. YDS.	3150# MAYNES 1125# UNIGEL	134	0-15	50# SACKS MAYNES MIX #1, 2 1/4"X16" AND 2"X8" UNIGEL	3 1/2" HOLES, 1.22#/YD. SPILLWAY
28 CU. YDS.	4925# MAYNES 237# UNIGEL	98	-	50# SACKS MAYNES MIX #1, 2 1/4"X16" AND 2"X8" UNIGEL	3 1/2" HOLES, 1.12#/YD. SPILLWAY

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Revisions			
Symbol	Descriptions	Date	Approved

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:

US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

Drawn by: J.E.K./V.A.S.

BLASTING SCHEDULE

Checked by:

Scale: Sheet: Plot:

[illegible]	[illegible]	[illegible]	832	99+26	16 DS TO 16' US	PRE-SPLIT	19	8.5'	20"	0	TOTAL 3/8" GRAVEL	272 SQ. FT.	400 200 GR. 40' E CORD
7	1_ 8 82	BETHANY FALLS LIMESTONE	846	73+35-73+85	60' US	PRE-SPLIT	28	14'-19'	20"	0	TOTAL 3/8" GRAVEL	850 SQ. FT.	500' 200 GR. 60' E CORD
8	12/9/82	BETHANY FALLS LIMESTONE	846	73+35-72+75	60' DS TO 40' DS	PRE-SPLIT	41	17'	20"	0	TOTAL 3/8" GRAVEL	1146 SQ. FT.	850' 200 GR. 75' E CORD
9	12/14/82	BETHANY FALLS LIMESTONE	841	72+75	45' US TO 60' US	PRE-SPLIT	12	8' 12'	20"	0	TOTAL 3/8" GRAVEL	200 SQ. FT.	250' 200 GR. 25' E CORD
10	12/16/82	WINTERSET		17+50-18+70	LEFT SIDE	PRE-SPLIT	72	12'-16'	0	20"-36"	3/8" GRAVEL	2271 SQ. FT.	1700' 200 GR. 500' E COR
1	11/2/82	BETHANY FALLS LIMESTONE	854	99+85-99+20	100' US TO 65 DS	PRODUCTION	84	8'-14'	10'-8'	7'-6'	4 1/2'	1750 CU. YDS.	1275* MAYNES 181* UNI
2	11/3/82	BETHANY FALLS LIMESTONE	855±	14+80-14+50	℄ TO 115' RT.	PRODUCTION	43	7'-11'	9'	7'	4 1/2'	920 CU. YDS.	500* MAYNES 112* UNIG
3	11/4/82	BETHANY FALLS LIMESTONE	855±	14+80-14+50	℄ T.O 90' LT	PRODUCTION	42	5'-9'	9'	7'	5'	595 CU YDS.	450* MAYNES 50* UNIGE.
4	11/8/82	BETHANY FALLS LIMESTONE	855	15+75-15+10	100' LT. TO 100 RT.	PRODUCTION	143	16'	10'	7'	5'	7100 CU YDS	5050* MAYNES 400* UN
5	11/18/82	BETHANY FALLS LIMESTONE	860	15+75-16+25	100' LT. TO 100' RT.	PRODUCTION	54	18.5'	16'	12'	9'	6465 CU. YDS.	6500* MAYNES 100* UNG
6	12/8/82	SNIABAR	832	99+26	97 US TO 72 DS	PRODUCTION	60	7.5'	7'	5'	4 1/2'	798 CU. YDS.	425* UNIGEL
7	12/13/82	BETHANY FALLS LIMESTONE		16+25-16+73	100' LT TO 108 RT	PRODUCTION	42-29	19'-19'	16'-10'	12'-7'	8 1/2' 4'	7000 CU. YDS.	9815* MAYNES 50* UNIG
8	12/14/82	BETHANY FALLS LIMESTONE	842-836	72+75-73+85	60 US TO 60' DS	PRODUCTION	127	6'-14'	9'	7'	4'	2900 CU. YDS.	2000* MAYNES 550* UNI
9	12/20/82	WINTERSET		17+50-17+90	108' LT. TO ℄	PRODUCTION	129	5 1/2'-8'	7'-10'	6'	4'	1360 CU. YDS.	1450* MAYNES 700* UNI
10	12/22/82	WINTERSET		17+90-18+35	120' LT. TO ℄	PRODUCTION	137	8.7'	7'-10'	6'	4'	2665 CU. YDS.	2400* MAYNES 475* UNI
11	12/23/82	WINTERSET		18+35-18+90	30' LT. 120' LT	PRODUCTION	91	10'	10'	6'	4'	1978 CU. YDS.	1750* MAYNES 125* UNI
11	1/12/83	BETHANY FALLS LIMESTONE		72+75	50'-115 DS	PRE-SPLIT	32	6'-15'	2'		3/8" GRAVEL	480 SQ. FT.	600' 200 GRAIN 70' E COR
12	1/25/83	SNIABAR	828.5	73+15-73+80	20' LT. TO 20' RT.	PRE-SPLIT	139	9'	20"			2115 SQ. FT.	1700' 200 GRAIN 250' E C
13	1/28/83	SNIABAR		74+00	45'-157' DS	PRE-SPLIT	67	9'	20"		3/8" GRAVEL	1008 SQ. FT.	1000' 200 GRAIN 150' E C
14	2/4/83	BETHANY FALLS LIMESTONE	841	72+50	121 US TO 73 DS	PRE-SPLIT	96	18'	2'		3/8" GRAVEL	3456 SQ. FT.	2100' 200 GRAIN 200' E C
15	3/10/83	WINTERSET		18+32-19+41	LEFT SIDE	PRE-SPLIT	39	14'	30"		3/8" GRAVEL	1350 SQ. FT.	1500' 200 GRAIN 110' E C
16	3/18/83	WINTERSET		18+00-20+80	LEFT SIDE	PRE-SPLIT	94	5'-11 1/2'	30"		3/8" GRAVEL	2940 SQ. FT.	2000' 200 GRAIN
16A	3/23/83	WINTERSET		20+80-22+70	RIGHT SIDE	PRE-SPLIT	51	8'-15'	30"		CRUSHED STONE	1500 SQ. FT.	850' 200 GRAIN 150' E CO
17	3/23/83	WINTERSET		20+80-22+70	RIGHT SIDE	PRE-SPLIT	51	8'-15'	30"		CRUSHED STONE	1500 SQ. FT.	850' 200 GRAIN 150' E CO
18	3/28/83	PLEASANTON	785	52+47-51+06		PRE-SPLIT	53	12'	2'-3'		TOTAL, STONE	1692 SQ. FT.	1350' 200 GRAIN 150' E C
19	3/31/83	PLEASANTON	785	51+06-47+00	75+03 DAM AXIS	PRE-SPLIT	155	12'	2'-2 1/2'		3/8" STONE	4872 SQ. FT.	4000' 200 GRAIN
20	4/15/83	PLEASANTON		11+88-10+50		PRE-SPLIT	46	12'	2 1/2'-3'		3/8" STONE	1656 SQ. FT.	100' 200 GRAIN 780' E CO
21	4/18/83	PLEASANTON		10+50-9+48		PRE-SPLIT	25	12'	30"		3/8" STONE	780 SQ. FT.	430' 200 GRAIN
22	4/26/83	BETHANY FALLS LIMESTONE		12+88-14+02	RIGHT SIDE	PRE-SPLIT	35	7-13'	2'-3'		3/8" GRAVEL	756 SQ. FT.	400' 200 GRAIN 300' E CO
23	5/5/83	BETHANY FALLS LIMESTONE		14+05-16+08	195' RT. OF ℄	PRE-SPLIT	55	13'-20'	2 1/2-3'		3/8" GRAVEL	2288 SQ. FT.	400' 200 GRAIN 950' E COR
24	5/9/83	BETHANY FALLS LIMESTONE		16+09 17+00	195' RT. OF ℄	PRE-SPLIT	26	20'	30"		3/8" ROCK	1900 SQ. FT.	325' 200 GRAIN 360' E COR
25	5/17/83	BETHANY FALLS LIMESTONE		25+18-24+50	195' RT. OF ℄	PRE-SPLIT	29	18'	2 1/2'-3'		3/8" GRAVEL	1224 SQ. FT.	700' 200 GRAIN 275' E COR
26	5/19/83	BETHANY FALLS LIMESTONE		24+50-23+05	195' RT. OF ℄	PRE-SPLIT	47	21'	3'		6'	2961 SQ. FT.	1250' E CORD 225* HERCO
27	5/23/83	BETHANY FALLS LIMESTONE		20+70-20+30	210 LT. OF ℄	PRE-SPLIT	63	18'	2 1/2'-3'		3/8" GRAVEL	3150 SQ. FT.	1512' 200 GRAIN 515' E C
28	5/24/83	BETHANY FALLS LIMESTONE		21+70-20+00	210' LT. OF ℄	PRE-SPLIT	14	22'	2 1/2'-3'		3/8" GRAVEL	814 SQ. FT.	460' 200 GRAIN 125' E COR
29	6/1/83	BETHANY FALLS LIMESTONE		15+35-17+00	210' LT. OF ℄	PRE-SPLIT	82	13.3	30"		3/8" GRAVEL	2727 SQ. FT.	2400' 200 GRAIN 220' E C
30	7/22/83	BETHANY FALLS LIMESTONE		16+93 18+00	210' LT. OF ℄	PRE-SPLIT	52	21	2 1/2'-3'		3/8" GRAVEL	2919 SQ. FT.	1700' 200 GRAIN 600' E C
31	7/26/83	BETHANY FALLS LIMESTONE		17+00-18+00	195 RT. OF ℄	PRE-SPLIT	25	21'	3'		6'	1575 SQ. FT.	120* HERCOSPLIT
12	1/4/83	WINTERSET		18+90-19+50	30' RT. OF PRE-SPL.	PRODUCTION	112	7.3'	7'-10'	5'-6	4'	1232 CU. YDS.	1100* MAYNES 175* UNIG
13	1/5/83	WINTERSET		17+40-17+80	90' LT. OF ℄	PRODUCTION	118	5.6'	7'	5'	4'	820 CU. YDS.	600* UNIGEL 15* MAYNES
14	1/6/83	WINTERSET		17+90-18+70	℄ TO 100' LT.	PRODUCTION	157	9.1'	10'	6'-7'	4'	3400 CU. YDS.	2800* MAYNES 550* UNIGE
15	1/11/83	WINTERSET		18+70-19+50	100'-200' LT OF PRE-SPL.	PRODUCTION	128	7'-10 1/2'	9'-10'	5'-10'	4'	2900 CU. YDS.	2325* MAYNES 175* UNIGE
16	1/1?/83	BETHANY FALLS LIMESTONE		92+75-93+70	40 DS TO 130' DS	PRODUCTION	122	8'	9'	6'	4'	2560 CU. YDS.	1750* MAYNES 175 UNIGEL
17	1/17/83	WINTERSET		19+50	100'-200' RT. OF LT. PRE-SPL	PRODUCTION	172	6.4'	6'-9'	5 1/2'	4'	2300 CU. YDS.	1475* MAYNES 200* UNIGE
18	1/18/83	WINTERSET		17+50-18+00	200'-300' RT. OF LT. PRE-SPL.	PRODUCTION	146	5 1/2'-7'	7'-9'	5'	4'	1320 CU. YDS.	800* MAYNES 445* UNIGEL
19	1/20/83	WINTERSET		18+00-18+60	200'-300' RT. OF LT. PRE-SPL.	PRODUCTION	137	9'	9'-10'	6'	4'	2160 CU. YDS.	2700* MAYNES 150* UNIGE
20	1/31/83	SNIABAR		73+ -74+25	35' DS TO 60' US	PRODUCTION	105	6.5'			4	820 CU. YDS.	450* MAYNES 650* UNIGEL
21	2/2/83	SNIABAR		74+00-74+27	30'-155' DS	PRODUCTION	68	7'	7'	5'	4'	1135 CU. YDS.	250* MAYNES 375* UNIGEL
22	2/8/83	BETHANY FALLS LIMESTONE		72+50-72+75	120' US TO 80 DS	PRODUCTION	127	7'-14'				2400 CU. YDS.	2250* MAYNES 250* UNIGE
23	2/10/83	WINTERSET		18+50-19+25	50' LT TO 50' RT OF ℄	PRODUCTION	116	12.3'	10'	7'	4'	3400 CU. YDS.	3850* MAYNES 200* UNIGE
24	2/11/83	WINTERSET		19+75-20+25	200'-300' RT. OF PRE-SPL.	PRODUCTION	93	10.2'	10'	7'	4'	2390 CU. YDS.	2200* MAYNES 225* UNIGE
25	2/22/83	WINTERSET		20+00-20+50	200'-300' LT. OF PRE-SPL.	PRODUCTION	176	6.6'	6'	7'	4'	1660 CU. YDS.	1400* MAYNES 550* UNIGE
26	2/25/83	WINTERSET		17+50-18+00	60' LT. TO 155' LT.	PRODUCTION	108	6.2'	7'	5'	4'	995 CU. YDS.	475* UNIGEL 50* MAYNES
27	3/1/83	WINTERSET		18+00-18+55	70' RT. TO 170 RT. OF PRESPLIT	PRODUCTION	113	8.1'	9'	6'	4'	1620 CU. YDS.	1450* MAYNES 550* UNIGE
28	3/3/83	WINTERSET		18+50-19+25		PRODUCTION	124	11.0'	10'	7'	4'	3600 CU. YDS.	3500* MAYNES 150* HERC
29	3/11/83	WINTERSET		18+30-19+60		PRODUCTION	35	5'-11'	7'	5'	4'	760 CU. YDS.	500* MAYNES 41* UNIGEL
30	3/11/83	WINTERSET		19+50-20+00	℄ TO 100' RT	PRODUCTION	107	10.7'	10'	6'	4'	2354 CU. YDS.	2625* MAYNES 150* UNIGE
31	3/15/83	WINTERSET		20+50-21+50	100' RT TO ℄	PRODUCTION	217	6.8'	9'	6'	4'	2700 CU. YDS.	2400* MAYNES 250* 325
32	3/24/83	WINTERSET		21+50-22+50	TO 150' LT OF PRESPLIT	PRODUCTION	220	6.2'	8'	6'	4'	2600 CU. YDS.	1600* MAYNES 400* UNIGE
33	3/25/83	WINTERSET			RT. SIDE TO 122' RT.	PRODUCTION	102	8'	9'	6'	4'	1728 CU. YDS.	1500* MAYNES 200* UNIGE
34	3/29/83	PLEASANTON	785	52+47-51+55	EDGE TO 85' LT.	PRODUCTION	142	8'	9'	6'	4'	2281 CU. YDS.	1950* MAYNES 150* 325
35	4/6/83	PLEASANTON	785	47+50-49+00	75+00-76+00 DAM STA.	PRODUCTION	153	8'	9'	6'	4'	2400 CU. YDS.	1900* MAYNES 75* 325 42
36	4/7/83	PLEASANTON	785	49+08-50+00	75+00-75+95 DAM STA.	PRODUCTION	160	8'	9'	6'	4'	2480 CU. YDS.	2400* MAYNES 275* UNIGEL
37	4/8/83	PLEASANTON	785	50+00-50+90	75+00-76+00	PRODUCTION	166	8'	9'	6'	4'	2750 CU. YDS.	2650* MAYNES 275* UNIGEL
38	4/11/83	PLEASANTON	785	50+90-51+62		PRODUCTION	134	8'	9'	6'	4'	2280 CU. YDS.	2100* MAYNES 200* UNIGE
39	4/18/83	[illegible]NTON		11+85-10+00		PRODUCTION	108	8'	9'	6'	4'	1750 CU. YDS.	1900* MAYNES 150* UNIGE
40	4/20/83	[illegible]		19+50-21+00		PRODUCTION	147	8'	9'	6'	4'	2400 CU. YDS.	1225* MAYNES 1050* UNIG
41	4/21/83	[illegible]		19+50-18+50		PRODUCTION	103	6.5'	8'	5'	4'	1092 CU. YDS.	525* MAYNES 450* UNIGEL
42	4/25/83	W[illegible]SET				PRODUCTION	57	5'	7'	5'	4'	360 CU. YDS.	75* MAYNES 150* UNIGEL
43	5/3/83	[illegible]ANY FALLS LIMESTONE		13+12-13+75	195' TO 95' RT. ℄	PRODUCTION	76	9'	8'	6'	4'	2016 CU. YDS.	550* MAYNES 625* UNIGEL
44	5/3/83	BETHANY FALLS LIMESTONE		14+02-14+50	195' TO 100' RT. ℄	PRODUCTION	59	12'	10'	6	4'	1750 CU. YDS.	1700* MAYNES 175* UNIGE
45	5/10/83	BETHANY FALLS LIMESTONE		14+50-15+30	155' TO 110' RT. ℄	PRODUCTION	72	15'	10'	7'	4'	2940 CU. YDS.	3300* MAYNES 400* UNIGE
46	5/11/83	BETHANY FALLS LIMESTONE		15+30-16+00	195 TO 110' RT. ℄	PRODUCTION	43	18'	10'	8'	4'	2314 CU. YDS.	2450* MAYNES 200* UNIGE
47	6/2/83	BETHANY FALLS LIMESTONE		15+35-15+75	210 TO 90 LT. ℄	PRODUCTION	130	9'	10'	6	4'	2160 CU. YDS.	1450* MAYNES 375* UNIGE
48	6/7/83	BETHANY FALLS LIMESTONE		15+75-16+25	210 TO 100 LT. ℄	PRODUCTION	134	13'	9'	7'	4'	3500 CU. YDS.	3150* MAYNES 1125* UNIG
49	6/10/83	BETHANY FALLS LIMESTONE		16+25-16+70	210' LT. TO 60 LT. ℄	PRODUCTION	98	17	10	7'	4'	4678 CU. YDS.	4925* MAYNES 237* UNIGEL

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PRINGS BLASTING REPORT

VOL.	EXPLOSIVES (LBS.)	NO. OF CAPS	DELAYS IN MILI/SEC	CARTRIDGE STRENGTH	REMARKS
	560' 200 GR. 40' E CORD	2	0	PRIMACORD, ENSIGN BICKFORD	NORMAL TO DAM AXIS; 3" HOLES
SQ. FT.	1600' 200 GR. 130' E CORD	2	0	PRIMACORD	NORMAL TO DAM; 3" HOLES
SQ. FT.	1200' 200 GR. 100' E CORD	2	0	PRIMACORD	3" HOLES, NORMAL TO AXIS
SQ. FT.	1100' 200 GR. 175' E CORD	1	0	PRIMACORD	NORMAL TO DAM; 3 1/2" HOLES
SQ. FT.	500' 200 GR. 100' E CORD	1	0	PRIMACORD	3 1/2" HOLES, NORMAL TO DAM, RESHOOT 4
SQ. FT.	400' 200 GR. 40' E CORD	1	0	PRIMACORD	3 1/2" HOLES, NORMAL TO AXIS, RESHOOT 4
SQ. FT.	500' 200 GR. 60' E CORD	1	0	PRIMACORD	3" PARALLEL TO AXIS
SQ. FT.	850' 200 GR. 75' E CORD	1	0	PRIMACORD	3" HOLES, PARALLEL AND AT ANGLE TO DAM AXIS
SQ. FT.	250' 200 GR. 25' E CORD	1	0	PRIMACORD	NORMAL TO AXIS, 3" HOLES
SQ. FT.	1700' 200 GR. 500' E CORD 67 LBS.	1	0	PRIMACORD, 7/8"X2' HERCULES HERCOSPLIT	3 HOLES, LEFT SIDE OF SPILLWAY
CU. YDS.	1275# MAYNES 181# UNIGEL	84	0-9	50# SACKS MAYNES MIX #1, UNIGEL 2"X8" AND 2 1/4" X 16"	3 1/2" HOLES, POWDER FACTOR 0.83
CU. YDS.	500# MAYNES 112# UNIGEL	43	0-7	50# SACKS MAYNES MIX #1, HERCULES UNIGEL 2"X8", 2 1/4"X16"	3 1/2" HOLES, SPILLWAY 0.67 LBS./YD.
CU. YDS.	450# MAYNES 50# UNIGEL	42	0-7	50# SACKS MAYNES MIX #1, HERCULES UNIGEL 2"X8"	3 1/2" HOLES, SPILLWAY 0.76 LBS./YD.
CU. YDS.	5050# MAYNES 400# UNIGEL	143	0-11	50# SACKS MAYNES, 2"X8" AND 2 1/4"X16" HERCULES UNIGEL	3 1/2" HOLES, SPILLWAY 0.77 LBS./YD.
CU. YDS.	6500# MAYNES 100# UNIGEL 105# TITAN G BOOSTER	54	0-8	50# SACKS MAYNES, 2"X8" AND 2 1/4"X16" UNIGEL, 2"X4" TITAN	6 1/4" HOLES, SPILLWAY 1.04 LBS./YD.
CU YDS	425# UNIGEL	60	0-10	HERCULES UNIGEL 2 1/4"X16" AND 2"X8"	3 1/2" HOLES, POWDER FACTOR 0.53
CU YDS.	9815# MAYNES 50# UNIGEL 40# TITAN	71	0-8	50# SACKS MAYNES MIX #1, 5 1/2"X30" MAYNES MIX CTG., 2"X8" HERCULES UNIGEL, 3"X3" TITAN G BOOSTER	3 1/2" & 6 1/4" HOLES, SPILLWAY
CU. YDS.	2000# MAYNES 550# UNIGEL	127	0-12	50# SACKS OF MAYNES MIX #1, UNIGEL 2"X8" AND 2 1/4"X16"	3-3 1/2" HOLES, 0.88 POWDER FACTOR
CU YDS.	1450# MAYNES 700# UNIGEL	129	0-8	50# SACKS OF MAYNES MIX #1, UNIGEL 2"X8" AND 2 1/4"X16"	3 1/2" HOLES, SPILLWAY 1.58 POWDER FACTOR MEASURED OFF PRESPLIT
CU YDS.	2400# MAYNES 475# UNIGEL	137	0-11	50# SACKS OF MAYNES MIX #1, UNIGEL 2"X8" AND 2 1/4"X16"	3 1/2" HOLES, SPILLWAY 1.08 POWDER FACTOR MEASURED OFF PRESPLIT
CU. YDS.	1750# MAYNES 125# UNIGEL	91	0-9	50# SACKS OF MAYNES MIX #1, UNIGEL 2"X8" AND 2 1/4"X16"	3 1/2" HOLES, SPILLWAY, MEASURED OFF PRESPLIT
SQ. FT.	600' 200 GRAIN 70' E CORD	1	0	ENSIGN BICKFORD PRIMACORD	3" HOLES
SQ. FT.	1700' 200 GRAIN 250' E CORD	2	0	PRIMACORD	3" HOLES
SQ. FT.	1000' 200 GRAIN 150' E CORD	2	0	PRIMACORD	3" HOLES
SQ. FT.	2100' 200 GRAIN 200' E CORD	1	0	PRIMACORD	3" HOLES
SQ. FT.	1500' 200 GRAIN 110' E CORD	1	6	PRIMACORD	3" HOLES, SPILLWAY
SQ. FT.	2000' 200 GRAIN	2	0-1	PRIMACORD	3" HOLES, SPILLWAY
SQ. FT.	850' 200 GRAIN 150' E CORD	1	0	PRIMACORD	3" HOLES, SPILLWAY
SQ. FT.	850' 200 GRAIN 150' E CORD	1	0	PRIMACORD	3" HOLES, SPILLWAY
SQ. FT.	1350' 200 GRAIN 150' E CORD	1	0	PRIMACORD	3" HOLES, OUTLET WORKS
SQ. FT.	4000' 200 GRAIN	2	0-1	PRIMACORD	3" HOLES, OUTLET WORKS
SQ. FT.	100' 200 GRAIN 780' E CORD 92# HERCOSPLIT	1	0	PRIMACORD, 7/8"X2' HERCULES HERCOSPLIT	3" HOLES, N. SERVICE ROAD
SQ. FT.	430' 200 GRAIN	1	0	PRIMACORD	3" HOLES, N. SERVICE ROAD
SQ. FT.	400' 200 GRAIN 300' E CORD 40# HERCOSPLIT	1	0	PRIMACORD, 7/8"X2' HERCULES HERCOSPLIT	SPILLWAY 195' FROM ℄, 3" HOLES
SQ. FT.	400' 200 GRAIN 950' E CORD 185# HERCOSPLIT	1	0	PRIMACORD, 7/8"X2' HERCULES HERCOSPLIT	3" HOLES, SPILLWAY
SQ. FT.	325' 200 GRAIN 360' E CORD 54# HERCOSPLIT	1	0	PRIMACORD, 7/8"X2' HERCULES HERCOSPLIT	3" HOLES, SPILLWAY
SQ. FT.	700' 200 GRAIN 275' E CORD 50# HERCOSPLIT	1	0	PRIMACORD, 7/8"X2' HERCULES HERCOSPLIT	3" HOLES, SPILLWAY
SQ. FT.	1250' E CORD 225# HERCOSPLIT	1	0	PRIMACORD, 7/8"X2' HERCULES HERCOSPLIT	3" HOLES, SPILLWAY
SQ. FT.	1512' 200 GRAIN 515' E CORD 71.4# HERCOSPLIT	1	0	PRIMACORD, 7/8"X2' HERCULES HERCOSPLIT	3" HOLES, SPILLWAY
SQ. FT.	460' 200 GRAIN 125' E CORD 19.2# HERCOSPLIT	1	0	PRIMACORD, 7/8"X2' HERCULES HERCOSPLIT	3" HOLES, SPILLWAY
SQ. FT.	2400' 200 GRAIN 220' E CORD	1	0	PRIMACORD, 7/8"X2' HERCULES HERCOSPLIT	3" HOLES, LT. SIDE OF SPILLWAY
SQ. FT.	1700' 200 GRAIN 600' E CORD 78# HERCOSPLIT	1	14	PRIMACORD, 7/8"X2' HERCULES HERCOSPLIT	3" HOLES, SPILLWAY
SQ. FT.	120# HERCOSPLIT	1	18	PRIMACORD, 7/8"X2' HERCULES HERCOSPLIT	3" HOLES, SPILLWAY
CU. YDS.	1100# MAYNES 175# UNIGEL	112	0-8	50# SACKS OF MAYNES MIX #1, UNIGEL 2"X8" AND 2 1/4"X16"	3 1/2" HOLES, SPILLWAY 1.03 LBS./YD.
CU. YDS.	600# UNIGEL 15# MAYNES HERCOMIX #1	118	0-9	50# SACKS OF MAYNES MIX #1, UNIGEL AND 2 1/4"X16"	3 1/2" HOLES, SPILLWAY 0.75 LBS./YD.
CU. YDS.	2800# MAYNES 550# UNIGEL	157	0-13	50# SACKS OF MAYNES MIX #1, UNIGEL 2"X8" AND 2 1/4"X16"	3 1/2" HOLES, SPILLWAY 0.99 LBS./YD.
CU YDS.	2325# MAYNES 175# UNIGEL	128	0-12	50# SACKS OF MAYNES MIX #1, UNIGEL 2"X8" AND 2 1/4"X16"	3 1/2" HOLES, SPILLWAY 0.86 LBS./YD.
CU. YDS.	1750# MAYNES 175 UNIGEL	122	0-12	50# SACKS OF MAYNES MIX #1, UNIGEL 2"X8" AND 2 1/4"X16"	3 1/2" HOLES, SPILLWAY 0.77 LBS./YD. POWDER FACTOR
CU. YDS.	1475# MAYNES 200# UNIGEL	172	0-12	50# SACKS OF MAYNES MIX #1, 2"X8" HERCULES UNIGEL	3 1/2" HOLES, SPILLWAY 0.73 #/YD.
CU. YDS.	800# MAYNES 445# UNIGEL	146	0-12	50# SACKS OF MAYNES MIX #1, 2"X8" AND 2 1/4"X16" UNIGEL	3 1/2" HOLES, SPILLWAY 0.93 #/YD.
CU. YDS.	2700# MAYNES 150# UNIGEL	137	0-12	50# SACKS OF MAYNES MIX #1, 2"X8" AND 2 1/4"X16" UNIGEL	3 1/2" HOLES, LEFT SIDE OF SPILLWAY, 1.32 #/YD.
CU. YDS.	450# MAYNES 650# UNIGEL	105	0-7	50# SACKS OF MAYNES MIX #1, 2"X8" AND 2 1/4"X16" UNIGEL	3 1/2" HOLES, 1.34 #/YD. POWDER FACTOR
CU YDS.	250# MAYNES 375# UNIGEL	68	0-13	50# SACKS OF MAYNES MIX #1, 2"X8" AND 2 1/4"X16" UNIGEL	3 1/2" HOLES, 0.55 #/YD.
CU. YDS.	2250# MAYNES 250# UNIGEL	127	0-13	50# SACKS OF MAYNES MIX #1, 2 1/4"X16" AND 2"X8" UNIGEL	3 1/2" HOLES, 1.04 #1 YD.
CU. YDS.	3650# MAYNES 200# UNIGEL	116	0-14	50# SACKS OF MAYNES MIX #1, 2"X8" AND 2 1/4"X16" UNIGEL	3 1/2" HOLES, SPILLWAY 1.19#/YD.
CU. YDS.	2200# MAYNES 225# UNIGEL	99	0-13	50# SACKS OF MAYNES MIX #1, 2"X8" AND 2 1/4"X16" UNIGEL	3 1/2" HOLES, SPILLWAY 1.01 #/YD.
CU. YDS.	1400# MAYNES 550# UNIGEL	176	0-13	50# SACKS OF MAYNES MIX #1, 2 1/4"X16" AND 2"X8" UNIGEL	3 1/2" HOLES, LEFT SIDE OF SPILLWAY, 1.17 #/YD.
CU. YDS.	475# UNIGEL 50# MAYNES	108	0-13	50# SACKS OF MAYNES MIX #1, 2 1/4"X16" AND 2"X8" UNIGEL	3 1/2" HOLES, RIGHT PRE-SPLIT IN SPILLWAY 0.53 #/YD.
CU. YDS.	1450# MAYNES 550# UNIGEL	113	0-13	50# SACKS OF MAYNES MIX #1, 2 1/4"X16" AND 2"X8" UNIGEL	RT. PRESPLIT LINE OF SPILLWAY, 3 1/2" HOLES 1.23 #/YD.
CU. YDS.	3500# MAYNES 150# HERCODYNE 325	124	0-13	50# SACKS OF MAYNES MIX #1, 2"X8" HERCULES UNIGEL	3 1/2" HOLES, SPILLWAY 1.0 #/YD POWDER FACTOR
CU. YDS.	500# MAYNES 41# UNIGEL	35	0-8	50# SACKS OF MAYNES MIX #1, 2"X8" HERCULES UNIGEL	3 1/2" HOLES, NEXT TO PRE-SPL ON LEFT SIDE OF SPILLWAY, 0.71#/YD
CU. YDS.	2625# MAYNES 150# UNIGEL	107	0-13	50# SACKS OF MAYNES MIX #1, 2"X8" HERCULES UNIGEL	3 1/2" HOLES, SPILLWAY
CU. YDS.	2400# MAYNES 250# 325 125# UNIGEL	217	0-13	50# SACKS OF MAYNES MIX #1, 2"X8" HERCODYNE 325, 2 1/4"X16" UNIGEL	3 1/2" HOLES, SPILLWAY 1.03#/YD
CU. YDS.	1600# MAYNES 400# UNIGEL 200# 325	220	0-15	50# SACKS OF MAYNES MIX #1, 2"X8" HERCODYNE 325, 2 1/4"X16" UNIGEL	3 1/2" HOLES, RIGHT SIDE OF SPILLWAY 0.85#/YD.
CU. YDS.	1500# MAYNES 200# UNIGEL 150# 325	102	0-12	50# SACKS OF MAYNES MIX #1, 2 1/4"X16" HERCODYNE 325, 2"X8" UNIGEL	3 1/2" HOLES, RIGHT SIDE OF SPILLWAY 1.07#/YD.
CU. YDS.	1950# MAYNES 150# 325 125# UNIGEL	142	0-11	50# SACKS OF MAYNES MIX #1, 2 1/4"X16" UNIGEL, 2"X8" HERCODYNE 325	3 1/2" HOLES, OUTLET WORKS-RT PRESPLIT LINE 0.98#/YD.
CU. YDS.	1900# MAYNES 75# 325 425# UNIGEL	153	0-15	50# SACKS MAYNES MIX #1, 2"X8" 325 HERCODYNE, 2 1/4"X16" HERCULES UNIGEL	3 1/2" HOLES, OUTLET WORKS, 0.87#/YD.
CU. YDS.	2400# MAYNES 275# UNIGEL	160	0-13	50# SACKS MAYNES MIX #1, 2"X8" UNIGEL 2 1/4"X16" UNIGEL	3 1/2" HOLES, OUTLET WORKS, 1.08#/YD.
CU. YDS.	2650# MAYNES 275# UNIGEL	166	-	50# SACKS MAYNES MIX #1, 2"X8" AND 2 3/4"X16" UNIGEL	3 1/2" HOLES, OUTLET WORKS, 1.06#/YD.
CU. YDS.	2100# MAYNES 200# UNIGEL	134	0-10	50# SACKS MAYNES MIX #1, 2"X8" AND 2 1/4"X16" UNIGEL	3 1/2" HOLES, OUTLET WORKS, 1.01#/YD.
CU. YDS.	1900# MAYNES 150# UNIGEL	108	0-11	50# SACKS MAYNES MIX #1, 2"X8" HERCULES UNIGEL	3 1/2" HOLES, NO. SERVICE RD., 1.17#/YD.
CU. YDS.	1225# MAYNES 1050# UNIGEL	147	0-13	50# SACKS MAYNES MIX #1, 2"X8" AND 2 1/4"X16" UNIGEL	3 1/2" HOLES, SPILLWAY 0.95#/YD.
CU. YDS.	525# MAYNES 450# UNIGEL	103	0-13	50# SACKS MAYNES MIX #1, 2"X8" AND 2 1/4"X16" UNIGEL	3 1/2" HOLES, SPILLWAY 0.89#/YD.
CU. YDS.	75# MAYNES 150# UNIGEL	57	0-7	50# SACKS MAYNES MIX #1, 2"X8" AND 2 1/4"X16" UNIGEL	3 1/2" HOLES, SPILLWAY 0.63#/YD.
CU. YDS.	550# MAYNES 625# UNIGEL	76	0-10	50# SACKS MAYNES MIX #1, 2"X8" AND 2 1/4"X16" UNIGEL	3 1/2" HOLES, SPILLWAY 0.53#/YD.
CU. YDS.	1700# MAYNES 175# UNIGEL	59	-	50# SACKS MAYNES MIX #1, 2 1/4"X16" AND 2"X8" UNIGEL	3 1/2" HOLES, SPILLWAY 1.01#/GAL.
CU. YDS.	3300# MAYNES 400# UNIGEL	72	0-9	50# SACKS MAYNES MIX #1, 2"X8" AND 2 1/4"X16" UNIGEL	3 1/2" HOLES, SPILLWAY 1.26#/YD.
CU. YDS.	2450# MAYNES 200# UNIGEL	43	0-6	50# SACKS MAYNES MIX #1, 2"X8" AND 2 1/4"X16" HERCULES UNIGEL	3 1/2" HOLES, 1.15#/YD. SPILLWAY
CU. YDS.	1450# MAYNES 375# UNIGEL	130	0-13	50# SACKS MAYNES MIX #1, 2"X8" AND 2 1/4"X16" UNIGEL	3 1/2" HOLES, 0.84#/YD. SPILLWAY
CU. YDS.	3150# MAYNES 1125# UNIGEL	134	0-15	50# SACKS MAYNES MIX #1, 2 1/4"X16" AND 2"X8" UNIGEL	3 1/2" HOLES, 1.22#/YD. SPILLWAY
CU. YDS.	4925# MAYNES 237# UNIGEL	98		50# SACKS MAYNES MIX #1, 2 1/4"X16" AND 2"X8" UNIGEL	3 1/2" HOLES, 1.12#/YD. SPILLWAY

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Revisions			
Symbol	Descriptions	Date	Approved

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

BLASTING SCHEDULE

Designed by:

Drawn by: J.E.K./V.A.B.

Checked by:

Submitted by:

Scale: AS SHOWN

Date: JUNE 1990

Dwg. No.:

Sheet number: 86

Plot Scale: S=.0833

Design File: [100,63]BSLDGN

File No.: RBL-2-1306

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BLUE SPRINGS DAM BLASTING

SHOT NO.	DATE	GEOLOGIC LOCATION	ELEV.	LOCATION STATION	LOCATION RANGE	PURPOSE	NO. OF HOLES	DEPTH (FT.)	SPACING (FT.)	BURDEN (FT.)	STEM (FT.)	SHOT VOL.	EXPLOSIVES
50	6/16/83	BETHANY FALLS		23+00	30' LT. TO 70' RT. ℄	PRODUCTION	116	17'	10'	7'	4'	5415 CU. YDS.	4100* MAYNES 900* UNIGEL
51	6/20/83	BETHANY FALLS		25+50-24+50	EDGE TO 150' LT. PRESPLIT	PRODUCTION	91	18'	10'	7'	4'	3775 CU. YDS.	2300* MAYNES 375* UNIGEL
52	6/22/83	BETHANY FALLS		23+50-24+50	EDGE TO 170' RT.	PRODUCTION	86	19'	10'	7'	4'	4376 CU. YDS.	4050* MAYNES 550* UNIGEL
53	6/24/83	BETHANY FALLS		24+00-23+50	EDGE TO 60' RT	PRODUCTION	44	19'	10'	7'	4'	2318 CU. YDS.	2050* MAYNES 350* UNIGEL
54	7/1/83	BETHANY FALLS		22+50-22+00	30'-110' LT ℄	PRODUCTION	82	18'	10'	7'	4'	3780 CU. YDS.	3225* MAYNES 900* UNIGEL
55	7/7/83	BETHANY FALLS		22+00		PRODUCTION	100	18'	10'	7'	4'	5022 CU. YDS	4625* MAYNES 475* UNIGEL
56	7/13/83	BETHANY FALLS		20+50-21+50		PRODUCTION	127	17'	10'	7'	3½'	5950 CU. YDS.	5650* MAYNES 175* UNIGEL
57	7/15/83	BETHANY FALLS		21+15-20+50	EDGE TO 110' RT	PRODUCTION	72	18'	10'	7'	4'	4250 CU. YDS	4200* MAYNES 100* UNIGEL
58	7/19/83	BETHANY FALLS		23+30-23+80	5' TO 100' LT. OF PRESPLIT	PRODUCTION	89	20'	10'	7'	4'	4433 CU. YDS.	4600* MAYNES 750* UNIGEL
59	7/25/83	BETHANY FALLS		23+30-23+90	℄ TO 100' RT.	PRODUCTION	77	21'	10'	7'	3½'	4900 CU. YDS.	4225* MAYNES 500* UNIGEL
60	7/29/83	BETHANY FALLS		16+20-17+20	195' TO 110' LT ℄	PRODUCTION	89	22'	10'	7'	3½'	4360 CU. YDS.	5350* MAYNES 205* UNIGEL
61	8/2/83	BETHANY FALLS		17+00-17+43	130' TO 40' LT ℄	PRODUCTION	90	22'	10'	7'	3½'	5133 CU. YDS.	5800* MAYNES 115* UNIGEL
62	8/4/83	BETHANY FALLS			165' RT. OF RT. PRE-SPLIT TO 60' LT. ℄	PRODUCTION	94	22'	10'	7'	3½'	5544 CU. YDS.	5450* MAYNES 115* UNIGEL
63	8/8/83	BETHANY FALLS		17+00-17+50	80'-170' LT. OF RT. PRESPLIT	PRODUCTION	130	22.5'	10'	7'	3½'	6750 CU. YDS.	8900* MAYNES 150* UNIGEL
64	8/11/83	BETHANY FALLS		16+75 17+75	EDGE TO 64' LT.	PRODUCTION	108	22.5'	10'	7'	3½'	7300 CU. YDS.	7150* MAYNES 150* UNIGEL
65	8/15/83	BETHANY FALLS		22+00	10' TO 100' RT. ℄	PRODUCTION	89	22'	10'	7'	3½'	5166 CU. YDS.	6100* MAYNES 260* UNIGEL
66	8/17/83	BETHANY FALLS		20+50-20+00	70' LT TO 50' RT ℄	PRODUCTION	82	21.5'	10'	8'	3½'	5160 CU. YDS.	5500* MAYNES 100* UNIGEL
67	8/19/83	BETHANY FALLS		20+00-20+40	50' TO 110' RT.	PRODUCTION	58	21.5'	10'	9'	3½'	4379 CU. YDS.	4000* MAYNES 75* UNIGEL
1	8/22/84	HUSHPUCKNEY SH. MIDDLE CREEK LS. LADORE & SNIABAR	842 ±	12+72-15+65	195 RT ℄	PRE-SPLIT	114	7'-12	2'		3/8" GRAV	2280 SQ. FT.	3500' 200 GR. 250' E CORD.
2	8/24/84	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	842 ±	15+65-17+00	195 RT ℄	PRE-SPLIT	49	12'	2'		3/8" GRAV.	1152 SQ. FT.	1200' 200 GR. 100' E CORD
3	8/27/84	BETHANY FALLS	866	18+00-18+50	195' RT ℄	PRE-SPLIT	12	23' ±	2½'		3/8" GRAV.	690 SQ. FT.	600' 200 GR. 40 E CORD.
4	10/1/84	BETHANY FALLS	864	18+54-20+42		PRE-SPLIT	52	22' ±	2½'		3/8" GRAV.	2860 SQ. FT.	2500' 200 GR. 140' E CORD.
5	10/2/84	BETHANY FALLS	864	20+42-21+75		PRE-SPLIT	50	22'	2½'		3/8" GRAV.	2750 SQ. FT.	2300' 200 GR.
6	10/4/84	BETHANY FALLS	864	21+75-23+15	195' RT. ℄	PRE-SPLIT	54	21'	30"		3/8" GRAV.	2835 SQ. FT.	2500' 200 GR. 160' E CORD
7	11/2/84	BETHANY FALLS	864	17+50-18+28	210' LT OF ℄	PRE-SPLIT	32	22'	30"		3/8" GRAV.	1716 SQ. FT.	1600' 200 GR. 100' E CORD.
8	11/7/84	BETHANY FALLS	864	18+28-19+10	210' LT. OF ℄	PRE-SPLIT	29	21'	30"		3/8" GRAV.	1525 SQ. FT.	1500' 200 GR. 100' E CORD.
9	11/13/84	BETHANY FALLS	864	19+00-20+00	210' LT OF ℄	PRE-SPLIT	52	21'	30"		3/8" GRAV.	2667 SQ. FT.	2350' 200GR. 190' E CORD.
10	11/24/84	BETHANY FALLS	854	25+40-25+52	195' RT. OF ℄	PRE-SPLIT	6	12'	2'		3/8" GRAV.	192 SQ. FT.	150' 200 GR. 15' E CORD.
11	12/1/84	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	842 ±	23+50-24+83	182' RT OF ℄	PRE-SPLIT	57	16'	2'		3/8" GRAV.	1922 SQ. FT.	1800' 200 GR. 130' E CORD.
12	12/7/84	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	842 ±	24+83-26+05	182' RT OF ℄	PRE-SPLIT	61	16'	2'		3/8" GRAV.	1708 SQ. FT.	1650' 200 GR. 130' E CORD.
13	12/11/84	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	842	17+00-16+01	197' LT. OF ℄	PRE-SPLIT	65	16'	2'		3/8" GRAV.	2044 SQ. FT.	2200' 200 GR. 135' E CORD.
14	12/12/84	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	842	16+01-15+42	197' LT OF ℄	PRE-SPLIT	36	16'	2'		3/8" GRAV	1152 SQ. FT.	1100' 200 GR. 100' E CORD.
15	12/13/84	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	842	15+42-15+38	197' LT. OF ℄	PRE-SPLIT	13	16	2'		3/8" GRAV.	416 SQ. FT.	400' 200 GR. 35' E CORD.
1	8/25/84	SNIABAR	834	12+76-13+10	195' TO 100' RT. ℄	PRODUCTION	92	7.5'	7'	5'	4½'	720 CU. YDS.	850* MAYNES 105* UNIGEL
2	8/28/84	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	838	13+15-13+40	185' TO 60' RT ℄	PRODUCTION	87	7.5'	7'	5	3½'	900 CU. YDS.	850* MAYNES 105* UNIGEL
3	8/31/84	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	841	13+40-14+00	℄ TO 195' RT	PRODUCTION	157	8'-12'	7'	6	3½'	1900 CU. YDS.	2350* MAYNES 190* UNIGEL
4	9/6/84	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	841	14+50-14+90	℄ TO 195 RT.	PRODUCTION	131	9'-13'	7	6'	4'	2020 CU. YDS.	2000* MAYNES 175* UNIGEL
5	9/11/84	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	842	14+70-15+00	℄ TO 195' RT	PRODUCTION	155	10'-12'	7	6'	5'	2508 CU. YDS.	2400* MAYNES 400* UNIGEL
6	9/13/84	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	841	15+30-15+50±	℄ TO 195 RT	PRODUCTION	125	11.5'	7	6'	5	2150 CU. YDS.	2350* MAYNES 225* UNIGEL
7	9/20/84	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	842	15+42-15+75	℄ TO 195' RT.	PRODUCTION	122	11.5'	7	6'	5'	2108 CU. YDS.	2150* MAYNES 200* UNIGEL
8	9/22/84	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	843	15+85-16+13	℄ TO 185' LT	PRODUCTION	122	11.5'	7'	6'	5'	2108 CU. YDS.	2100* MAYNES 250* UNIGEL
9	9/26/84	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	843	16+13-16+45	℄ TO 195' RT	PRODUCTION	121	12'	7'	6'	5'	2200 CU. YDS.	2250* MAYNES 250* UNIGEL
10	10/8/84	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	842	15+50 16+50	℄ TO 30' LT.	PRODUCTION	69	12'	7'	6'	5'	1213 CU. YDS.	1525* MAYNES 113* UNIGEL
11	10/10/84	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	842	15+50-16+50	30' LT TO 60' LT	PRODUCTION	70	13'	7'	6'	5'	1372 CU. YDS.	1750* MAYNES 150* UNIGEL
12	10/12/84	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	842	15+50-16+50	60'-90' LT.	PRODUCTION	72	12.5'	7'	6'	5'	1400 CU. YDS.	1350* MAYNES 300* UNIGEL
13	11/5/84	BETHANY FALLS	864 ±	17+75-18+25	110' TO 195' RT	PRE-SPLIT	45	21'	9'	8'	3½'	2200 CU. YDS.	1700* 16.2 300* UNIMITE
16	4/12/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	840	15+45 14+65	℄ TO 197' LT	PRE-SPLIT	36	14'	2'	0	3/4" GRAV.	900 CU. YDS.	1000' 200 GR. 100' E CORD.
14	4/16/85	SNIABAR	832	15+00-16+00	50' LT TO ℄	PRODUCTION	153	6'	6'	4'	3'	850 CU. YDS.	1025* MAYNES 130* UNIGEL
15	4/18/85	SNIABAR	935	15+00-16+00	70' LT TO ℄	PRODUCTION	97	6'-11'	5'	5'	3½'	1260 CU. YDS.	1200* MAYNES 100* UNIGE
16	4/19/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	0940	15+00-16+00	95' LT TO ℄	PRODUCTION	60	10'	8'	5'	4	815 CU. YDS.	1025* MAYNES 65* UNIGEL
17	4/24/85	BETHANY FALLS	921	17+20-17+40	120' LT. ℄	PRODUCTION	42	21'	10'	8'	8'	2315 CU. YDS.	1650* MAYNES 74* UNIMITE
18	5/3/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	840	17+00-16+50	140 LT. TO ℄	PRODUCTION	32	12'-14'	8'	5	4'	540 CU. YDS.	700* MAYNES 40* UNIGEL
19	5/22/85	BETHANY FALLS	863	17+50-18+00	100' LT TO ℄	PRODUCTION	44	21'	10'	8'	4'	2695 CU. YDS.	1720* MAYNES 96* UNIMITE
-	6/25/86	BOULDERS	-	07+00-17+50	LT. TO ℄	-	67	8'X2'	-	-	-	-	3* HERCUSPLIT 5.5* UNIGEL
-	6/26/86	BOULDERS	-	17+00-17+50	100' RT. TO ℄	-	20	-	-	-	-	-	4* UNIGEL
20	6/27/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	?	26+00-25+60	112' RT OF ℄	PRODUCTION	91	9'	7'	5'	4'	911 CU. YDS.	400* MAYNES 150* UNIMITE
21	7/1/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	837-840	25+50-25+00	105' RT TO ℄	PRODUCTION	79	9-12'	7	5'	4'	1070 CU. YDS.	900* MAYNES 356* UNIGEL
22	7/3/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	0840	25+00-24+50	108' RT. TO ℄	PRODUCTION	76	12	8'	6'	4'	1365 CU. YDS.	1000* MAYNES 210* UNIGEL
23	7/5/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	841	24+12-24+48	106 RT TO ℄	PRODUCTION	57	13.5'	8'	6'	4'	1152 CU. YDS.	1100* MAYNES 70* UNIGEL
24	9/12/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	842	23+75-24+10	112' RT TO ℄	PRODUCTION	59	12.5'	8'	6'	-	1070 CU. YDS.	1125* MAYNES 66* UNIGEL
25	9/16/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	942	23+25-23+70	100' RT TO ℄	PRODUCTION	69	12.5	8'	6'	4'	1263 CU. YDS.	1025* MAYNES 400* UNIGEL
26	9/18/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	837	24+50-25+00	100' RT. TO ℄	PRODUCTION	109	5-11'	7'	5	4'	1404 CU. YDS.	900* MAYNES 300* UNIGEL
27	9/20/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	836	24+00-24+50	25' RT. TO ℄	PRODUCTION	104	5-11	7	5'	4'	1120 CU. YDS.	1100* MAYNES 100* UNIGE
28	9/26/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	938	24+00-25+00	80 RT. TO ℄	PRODUCTION	61	5-13'	7-8'	5'		1000 CU. YDS.	1100* MAYNES 100* UNIGE
29	10/2/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	835	24+00-24+30	RT. OF ℄	PRODUCTION	46	8'	7'	5'		480 CU. YDS.	450* MAYNES 75* UNIGEL
30	10/3/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR		24+00-23+50	80' RT. TO ℄	PRODUCTION	72	7-9'	7'	5'		810 CU. YDS.	850* MAYNES 66* UNIGEL
31	10/7/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR		24+00-23+75	40' RT TO ℄	PRODUCTION	72	10'	8'	5'		815 CU. YDS.	900* MAYNES 16* UNIGEL
32	10/8/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR			RT. OF ℄	PRODUCTION	35	10.5'	8'	5'		535 CU. YDS.	700* MAYNES 40* UNIGEL
33	10/17/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR		23+00 22+50		PRODUCTION	86	11'	8'	5'		1470 CU. YDS	1650* MAYNES 100* UNIGE

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VALUE ENGINEERING PAYS

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E SPRINGS DAM BLASTING REPORT

SHOT VOL.	EXPLOSIVES (LBS.)	NO. OF CAPS	DELAYS IN MILI/SEC	CARTRIDGE STRENGTH	REMARKS
5415 CU. YDS.	4100# MAYNES 900# UNIGEL	116	0-11	50# SACKS MAYNES MIX #1, 2 1/4"X16" AND 2"X8" UNIGEL	3 1/2" HOLES, 0.92#/YD. SPILLWAY
75 CU. YDS.	2300# MAYNES 375# UNIGEL	91	0-9	50# SACKS MAYNES MIX#1, 2"X8" AND 2 1/4"X16" UNIGEL	3 1/2" HOLES, RT. PRESPLIT SPILLWAY, 0.71#/YD.
4376 CU. YDS.	5050# MAYNES 550# UNIGEL	86	0-10	50# SACKS MAYNES MIX #1, 2"X8" AND 2 1/4"X16" UNIGEL	3 1/2" HOLES, 1.05#/YD. SPILLWAY
318 CU. YDS.	2050# MAYNES 350# UNIGEL	44	0-7	50# SACKS MAYNES MIX #1, 2"X8" AND 2 1/4"X16" UNIGEL	3 1/2" HOLES, 1.04#/YD. SPILLWAY
3780 CU. YDS.	3625# MAYNES 900# UNIGEL	82	0-10	50# SACKS MAYNES MIX #1, 2 1/4"X16" AND 2"X8" UNIGEL	3 1/2" HOLES, 1.09#/YD. SPILLWAY
5022 CU. YDS.	4625# MAYNES 475# UNIGEL	100	0-10	50# SACKS MAYNES MIX #1, 2 1/4"X16" AND 2"X8" UNIGEL	3 1/2" HOLES, SPILLWAY 1.02#/YD.
5950 CU. YDS.	5650# MAYNES 175# UNIGEL	127	0-10	50# SACKS MAYNES MIX #1, 2 1/4"X16" AND 2"X8" UNIGEL	3 1/2" HOLES, SPILLWAY 0.98#/YD.
1250 CU. YDS.	4200# MAYNES 100# UNIGEL	72	0-10	50# SACKS MAYNES MIX #1, 2"X8" UNIGEL	3 1/2" HOLES LEFT PRESPLIT OF SPILLWAY 1.01#/YD.
1433 CU. YDS.	4600# MAYNES 750# UNIGEL	88	3-8	50# SACKS MAYNES MIX #1, 2"X8" AND 2 1/4"X16" UNIGEL	3 1/2" HOLES, RIGHT PRESPLIT, 1.21#/YD. SPILLWAY
1900 CU. YDS.	4225# MAYNES 500# UNIGEL	77	0-9	50# SACKS MAYNES MIX #1, 2"X8" AND 2 1/4"X16" UNIGEL	3 1/2" HOLES, SPILLWAY 0.96#/YD.
1360 CU. YDS.	5350# MAYNES 205# UNIGEL	90	0-9	50# SACKS MAYNES MIX #1, 2"X8" AND 2 1/4"X16" HERCULES UNIGEL	3 1/2" HOLES, 1.27#/YD. SPILLWAY
33 CU. YDS.	5800# MAYNES 115# UNIGEL	90	0-9	50# SACKS MAYNES MIX #1, 2"X8" AND 2 1/4"X16" UNIGEL	3 1/2" HOLES, 1.15#/YD. SPILLWAY
544 CU. YDS.	5450# MAYNES 115# UNIGEL	94	0-9	50# SACKS MAYNES MIX #1, 2"X8" AND 2 1/4"X16" UNIGEL	3 1/2" HOLES, 1#/YD. SPILLWAY
750 CU. YDS.	8900# MAYNES 150# UNIGEL	130	0-12	50# SACKS MAYNES MIX #1, 2"X8" AND 2 1/4"X16" UNIGEL	3 1/2" HOLES, 1.34#/YD. SPILLWAY
300 CU. YDS	7150# MAYNES 150# UNIGEL	109	0-12	50# SACKS MAYNES MIX #1, 2"X8" AND 2 1/4"X16" HERCULES UNIGEL	3 1/2" HOLES, 1.19#/YD. RIGHT PRESPLIT OF SPILLWAY
166 CU YDS.	6100# MAYNES 260# UNIGEL	90	0-11	50# SACKS MAYNES MIX #1, 2"X8" AND 2 1/4"X16" UNIGEL	3 1/2" HOLES, 1.23#/YD. SPILLWAY
160 CU. YDS.	5500# MAYNES 100# UNIGEL	83	0-11	50# SACKS MAYNES MIX #1, 2"X6" AND 2 1/4"X16" UNIGEL	3 1/2" HOLES, 1.07#/YD. SPILLWAY
379 CU. YDS.	4000# MAYNES 75# UNIGEL	60	0-9	50# SACKS OF MAYNES MIX #1, 2"X8" HERCULES UNIGEL	3 1/2" HOLES, 0.93#/YD. SPILLWAY
280 SQ. FT.	3500' 200 GR. 250' E CORD.	1	0	ENSIGN BICKFORD PRIMACORD	3" HOLES, SPILLWAY
152 SQ. FT.	1200' 200 GR. 100' E CORD.	1	0	PRIMACORD	3" HOLES, SPILLWAY
690 SQ. FT.	600' 200 GR. 40 E CORD.	1	0	PRIMACORD	3" HOLES SPILLWAY
860 SQ. FT.	2500' 200 GR. 140' E CORD.	1	12	PRIMACORD	3" HOLES, SPILLWAY
750 SQ. FT.	2300' 200 GR.	1	12	PRIMACORD	3" HOLES RIGHT SIDE OF SPILLWAY
835 SQ. FT.	2500' 200 GR. 160' E CORD 2.4# HERCOSPLIT	1	12	PRIMACORD, 7/8"X2' HERCULES HERCOSPLIT	3" HOLES, RIGHT SIDE OF SPILLWAY
716 SQ. FT.	1600' 200 GR. 100' E CORD.	1	-	PRIMACORD	3" HOLES SPILLWAY
525 SQ. FT.	1500' 200 GR. 100' E CORD.	1	-	PRIMACORD	3" HOLES SPILLWAY
667 SQ. FT.	2350' 200GR. 190' E CORD.	1	-	PRIMACORD	3" HOLES, SPILLWAY
192 SQ. FT.	150' 200 GR. 15' E CORD.	1	-	PRIMACORD	3" HOLES, SPILLWAY
922 SQ. FT.	1800' 200 GR. 130' E CORD.	1	0	PRIMACORD	3" HOLES, SPILLWAY
708 SQ. FT.	1650' 200 GR. 130' E CORD.	1	0	PRIMACORD	3" HOLES, SPILLWAY
044 SQ. FT.	2200' 200 GR. 135' E CORD.	1	0	PRIMACORD	3" HOLES, SPILLWAY
152 SQ. FT.	1100' 200 GR. 100' E CORD.	1	0	PRIMACORD	3" HOLES, SPILLWAY
116 SQ. FT.	400' 200 GR. 35' E CORD.	1	0	PRIMACORD	3" HOLES, SPILLWAY
20 CU. YDS.	850# MAYNES 105# UNIGEL	92	0-10	50# SACKS MAYNES MIX #1, 2"X8" UNIGEL	3 1/2" HOLES, RT. SIDE OF SPILLWAY, 1.3#/YD.
00 CU. YDS.	850# MAYNES 105# UNIGEL	87	0-10	50# SACKS OF MAYNES MIX #1, 2"X8" HERCULES UNIGEL	3" HOLES, SPILLWAY 1.06#/YD. POWDER FACTOR
00 CU. YDS.	2350# MAYNES 190# UNIGEL	157	0-10	50# SACKS MAYNES MIX #1, 2 1/4"X16" & 2"X8" UNIGEL	3" HOLES, SPILLWAY
20 CU. YDS.	2000# MAYNES 175# UNIGEL	131	0-14	50# SACKS MAYNES MIX #1, 2 1/4"X16" & 2"X8" UNIGEL	3" HOLES, RT. SIDE OF SPILLWAY, 1.09#/YD.
09 CU. YDS.	2400# MAYNES 400# UNIGEL	155	0-15	50# SACKS MAYNES MIX #1, 2 1/2"X16" & 2"X8" UNIGEL	3" HOLES, RT. SIDE OF SPILLWAY, 1.12#/YD.
CU. YDS.	2350# MAYNES 225# UNIGEL	125	0-15	50# SACKS MAYNES MIX #1, 2 1/2"X16" & 2"X8" UNIGEL	3" HOLES, SPILLWAY 1.2#/YD.
08 CU. YDS.	2150# MAYNES 200# UNIGEL	122	0-13	50# SACKS MAYNES MIX #1, 2 1/2"X16" & 2"X8" UNIGEL	3" HOLES, SPILLWAY
08 CU. YDS.	2100# MAYNES 250# UNIGEL	122	0-13	50# SACKS MAYNES MIX #1, 2 1/2"X16" & 2"X8" HERCULES UNIGEL	3" HOLES, SPILLWAY 1.11#/YD.
CU. YDS.	2250# MAYNES 250# UNIGEL	121	0-13	50# SACKS MAYNES MIX #1, 2 1/2"X16" & 2"X8" HERCULES UNIGEL	3" HOLES, SPILLWAY 1.14#/YD.
13 CU. YDS.	1525# MAYNES 113# UNIGEL	69	0-9	50# SACKS MAYNES MIX #1, 2"X8" & 2 1/4"X16" UNIGEL	3" HOLES, SPILLWAY
72 CU. YDS.	1750# MAYNES 150# UNIGEL	70	0-9	50# SACKS MAYNES MIX #1, 2"X8" & 2 1/4"X16" UNIGEL	3" HOLES, SPILLWAY 1.4#/YD.
50 CU. YDS.	1350# MAYNES 300# UNIGEL	73	-	50# SACKS MAYNES MIX #1, 2 1/2"X16" & 2"X8" UNIGEL	3" HOLES, SPILLWAY 1.18#/YD.
00 CU. YDS.	1700# 16.2 300# UNIMITE 100# UNIGEL	45	0-12	40# & 50# SACKS OF HERCULES H.P. 162, 2 1/4"X16" UNIMITE & 2"X8" UNIGEL	3" HOLES, SPILLWAY 0.95#/YD.
CU. YDS.	1000' 200 GR. 100' E CORD.	1	0	PRIMACORD	3" HOLES, LEFT SIDE OF SPILLWAY
CU. YDS.	1025# MAYNES 130# UNIGEL	153	0-10	50# SACKS MAYNES 2 1/2"X16", 2"X8" UNIGEL	3" HOLES LT. SIDE OF SPILLWAY 1.24#/CU. YD.
60 CU. YDS.	1200# MAYNES 100# UNIGEL	97	0-10	50# SACKS MAYNES 2"X8" UNIGEL	3" HOLES, SPILLWAY 1.03#/CU. YD.
5 CU. YDS.	1025# MAYNES 65# UNIGEL	60	0-8	50# SACKS MAYNES 2"X8" UNIGEL	3" HOLES, SPILLWAY 1.33#/CU. YD.
15 CU. YDS.	1650# MAYNES 74# UNIMITE 47# UNIGEL	42	0-8	40# SACKS 2 1/4"X16", 2"X8"	3" HOLES, SPILLWAY 1.36#/CU. YD.
10 CU. YDS.	700# MAYNES 40# UNIGEL	32	0-6	50# SACKS MAYNES 2"X8" UNIGEL	3" HOLES, LT. SIDE SPILLWAY 1.36#/CU. YD.
95 CU. YDS.	1720# MAYNES 96# UNIMITE 50# UNIGEL	46	1-9	40# BAGS MAYNES 2 1/4"X16" 2"X8"	3 1/2" HOLES LT. SPILLWAY 0.69#/CU. YD.
-	3# HERCUSPLIT 5.5# UNIGEL 6.5# UNIGEL			7/8"X24", 2"X8", 1 1/4"X8"	65 BOULDERS IN SPILLWAY 1 1/4" DIA. HOLES
-	4# UNIGEL			1 1/4"X8"	BOULDERS LT. SIDE OF SPILLWAY, 1 1/4" HOLES
CU. YDS.	400# MAYNES 150# UNIMITE 350# UNIGEL 100# UNIGEL	92	0-9	50# SACKS 2 1/4"X16", 2 1/2"X16", 2"X8"	RT. SIDE OF SPILLWAY 3" HOLES 1.1 #/CU. YD.
0 CU. YDS.	900# MAYNES 356# UNIGEL	79	0-9	50# BAGS 2"X16"	RT. SIDE OF SPILLWAY 3" HOLES 1.17#/CU. YDS.
5 CU. YDS.	1000# MAYNES 210# UNIGEL 100# UNIGEL	76	0-9	50# SACKS 2 1/2"X16", 2"X8"	3" HOLES, SPILLWAY 0.96#/CU. YD.
CU. YDS.	1100# MAYNES 70# UNIGEL 70# UNIGEL	57	0-8	50# SACKS 2 1/2"X16", 2"X8"	RT. SIDE OF SPILLWAY 3" HOLES 1.08# CU. YDS.
0 CU. YDS.	1125# MAYNES 66# UNIGEL 55# UNIGEL	59	0-9	50# SACKS 2"X8", 2 1/2"X16"	RT. SIDE OF SPILLWAY 3" HOLES 1.16#/CU. YD.
CU. YDS.	1025# MAYNES 400# UNIGEL 75# UNIGEL	69	0-11	50# SACKS 2 1/2"X16", 2"X8"	RT. SIDE OF SPILLWAY 3" HOLES 1.2#/CU. YD.
4 CU. YDS.	900# MAYNES 300# UNIGEL 150# UNIGEL	103	0-12	50# SACKS 2 1/2"X16", 2"X8"	RT. SIDE OF SPILLWAY 3" HOLE 0.9#/CU. YD.
CU. YDS.	1100# MAYNES 100# UNIGEL 125# UNIGEL			50# SACKS 2 1/2"X16", 2"X8"	RT. SIDE OF SPILLWAY 3" HOLES 1.18#/CU. YD.
CU. YDS.	1100# MAYNES 100# UNIGEL 100# UNIGEL	69	0-12	50# SACKS 2 1/2"X16", 2"X8"	3" HOLES, SPILLWAY 1.3#/CU. YD.
CU. YDS.	450# MAYNES 75# UNIGEL 50# UNIGEL	46	0-9	50# SACKS 2 1/2"X16" 2"X8"	3" HOLES, SPILLWAY 1.2#/CU. YD.
CU. YDS.	850# MAYNES 66# UNIGEL 100# UNIGEL	72	0-10	50# SACKS 2 1/2"X16", 2"X8"	RT. SIDE SPILLWAY, 3" HOLE, 1.25#/CU. YD.
5 CU. YDS.	900# MAYNES 16# UNIGEL 60# UNIGEL	56	0-9	50# SACKS 2 1/2"X16", 2"X8"	RT. SIDE OF SPILLWAY, 3" HOLES, 1.2#/CU. YD.
CU. YDS.	700# MAYNES 40# UNIGEL	36	0-8	50# SACKS 2 1/2"X16", 2"X8"	RT. SIDE OF SPILLWAY, 3" HOLES, 1.3#/CU. YD.
CU. YDS.	1650# MAYNES 100# UNIGEL 100# UNIGEL	86	0-10	50# SACKS 2 1/2"X16", 2"X8"	3" HOLES 1.2#/CU. YD.

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Revisions			
Symbol	Descriptions	Date	Approved

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

BLASTING SCHEDULE

Designed by:

Drawn by: V.A.B.

Checked by:

Submitted by:

Scale: AS SHOWN

Date: JUNE 1990

Sheet number: 87

Plot Scale: S=.0833

Design File: D00.6330S2.DGN

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SHOT NO.	DATE	GEOLOGIC LOCATION	ELEV.	LOCATION STATION	LOCATION RANGE	PURPOSE	NO. OF HOLES	DEPTH (FT.)	SPACING (FT.)	BURDEN (FT.)	STEM (FT.)	SHOT VOL.	EXPLO
50	6/16/83	BETHANY FALLS		23+00	30' LT. TO 70' RT. ℄	PRODUCTION	116	17'	10'	7'	4'	5415 CU. YDS.	4100* MAYNES 900* U
51	6/20/83	BETHANY FALLS		25+50-24+50	EDGE TO 150' LT. PRESPLIT	PRODUCTION	91	18'	10'	7'	4'	3775 CU. YDS.	2300* MAYNES 375* U
52	6/22/83	BETHANY FALLS		23+50-24+50	EDGE TO 170' RT.	PRODUCTION	86	19'	10'	7'	4'	4376 CU. YDS.	4050* MAYNES 550* U
53	6/24/83	BETHANY FALLS		24+00-23+50	EDGE TO 60' RT.	PRODUCTION	44	19'	10'	7'	4'	2318 CU. YDS.	2050* MAYNES 350* U
54	7/1/83	BETHANY FALLS		22+50-22+00	30'-110' LT ℄	PRODUCTION	82	18'	10'	7'	4'	3780 CU. YDS.	3225* MAYNES 900* U
55	7/7/83	BETHANY FALLS		22+00		PRODUCTION	100	18'	10'	7'	4'	5022 CU. YDS.	4625* MAYNES 475* U
56	7/13/83	BETHANY FALLS		20+50-21+50		PRODUCTION	127	17'	10'	7'	3½'	5950 CU. YDS.	5650* MAYNES 175* U
57	7/15/83	BETHANY FALLS		21+15-20+50	EDGE TO 110' RT.	PRODUCTION	72	18'	10'	7'	4'	4250 CU. YDS.	4200* MAYNES 100* U
58	7/19/83	BETHANY FALLS		23+30-23+80	5' TO 100' LT OF PRESPLIT	PRODUCTION	88	20'	10'	7'	4'	4433 CU. YDS.	4600* MAYNES 750* U
59	7/25/83	BETHANY FALLS		23+30-23+90	℄ TO 100' RT	PRODUCTION	77	21'	10'	7'	3½'	4900 CU. YDS	4225* MAYNES 500* U
60	7/29/83	BETHANY FALLS		16+20-17+20	195' TO 110' LT. ℄	PRODUCTION	89	22'	10'	7'	3½'	4360 CU. YDS.	5350* MAYNES 205* U
61	8/2/83	BETHANY FALLS		17+00-17+43	130' TO 40' LT. ℄	PRODUCTION	90	22'	10'	7'	3½'	5133 CU. YDS.	5800* MAYNES 115* U
62	8/4/83	BETHANY FALLS			165' RT. OF RT. PRE-SPLIT TO 60' LT. ℄	PRODUCTION	94	22'	10'	7'	3½'	5544 CU. YDS.	5450* MAYNES 115* U
63	8/8/83	BETHANY FALLS		17+00-17+50	80'-170' LT. OF RT. PRESPLIT	PRODUCTION	130	22.5'	10'	7'	3½'	6750 CU. YDS.	8900* MAYNES 150* U
64	8/11/83	BETHANY FALLS		16+75-17+75	EDGE TO 64' LT	PRODUCTION	108	22.5'	10'	7'	3½'	7300 CU. YDS.	7150* MAYNES 150* U
65	8/15/83	BETHANY FALLS		22+00	10' TO 100' RT. ℄	PRODUCTION	89	22'	10'	7'	3½'	5166 CU. YDS.	6100* MAYNES 260* U
66	8/17/83	BETHANY FALLS		20+50-20+00	70' LT TO 50' RT. ℄	PRODUCTION	82	21.5'	10'	8'	3½'	5160 CU. YDS.	5500* MAYNES 100* U
67	8/19/83	BETHANY FALLS		20+00-20+40	50' TO 110' RT	PRODUCTION	58	21.5'	10'	9'	3½'	4379 CU. YDS.	4000* MAYNES 75* UN
1	8/22/84	HUSHPUCKNEY SH, MIDDLE CREEK LS, LADORE & SNIABAR	842 ±	12+72-15+65	195' RT. ℄	PRE-SPLIT	114	7'-12'	2'		3/8" GRAV.	2280 SQ. FT.	3500' 200 GR. 250' E C
2	8/24/84	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	842 ±	15+65-17+00	195' RT ℄	PRE-SPLIT	49	12'	2'		3/8" GRAV.	1152 SQ. FT.	1200' 200 GR. 100' E
3	8/27/84	BETHANY FALLS	866	18+00-18+50	195' RT. ℄	PRE-SPLIT	12	23' ±	2½'		3/8" GRAV.	690 SQ. FT	600' 200 GR. 40 E COF
4	10/1/84	BETHANY FALLS	864	18+54-20+42		PRE-SPLIT	52	22' ±	2½'		3/8" GRAV.	2860 SQ. FT.	2500' 200 GR. 140' E C
5	10/2/84	BETHANY FALLS	864	20+42-21+75		PRE-SPLIT	50	22'	2½'		3/8" GRAV.	2750 SQ. FT.	2300' 200 GR.
6	10/4/84	BETHANY FALLS	864	21+75-23+15	195' RT ℄	PRE-SPLIT	54	21'	30"		3/8" GRAV.	2835 SQ. FT.	2500' 200 GR 160' E C
7	11/2/84	BETHANY FALLS	864	17+50-18+28	210' LT. OF ℄	PRE-SPLIT	32	22'	30"		3/8" GRAV.	1716 SQ. FT.	1600' 200 GR. 100' E C
8	11/7/84	BETHANY FALLS	864	18+28-19+10	210' LT OF ℄	PRE-SPLIT	29	21'	30"		3/8" GRAV.	1525 SQ. FT.	1500' 200 GR. 100' E C
9	11/13/84	BETHANY FALLS	864	19+00-20+00	210' LT. OF ℄	PRE-SPLIT	52	21	30"		3/8" GRAV.	2667 SQ. FT.	2350' 200GR. 190' E CO
10	11/24/84	BETHANY FALLS	854	25+40-25+52	195' RT OF ℄	PRE-SPLIT	6	12'	2'		3/8" GRAV.	192 SQ. FT.	150' 200 GR. 15' E COF
11	12/1/84	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	842 ±	23+50-24+83	182' RT. OF ℄	PRE-SPLIT	57	16'	2'		3/8" GRAV.	1922 SQ. FT.	1800' 200 GR. 130' E C
12	12/7/84	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	842 ±	24+83-26+05	182' RT. OF ℄	PRE-SPLIT	61	16	2'		3/8" GRAV.	1708 SQ. FT.	1650' 200 GR. 130' E C
13	12/11/84	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	842	17+00-16+01	197' LT OF ℄	PRE-SPLIT	65	16'	2'		3/8" GRAV.	2044 SQ. FT.	2200' 200 GR. 135' E C
14	12/12/84	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	842	16+01-15+42	197' LT. OF ℄	PRE-SPLIT	36	16'	2'		3/8" GRAV.	1152 SQ. FT.	1100' 200 GR. 100' E
15	12/13/84	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	842	15+42-15+38	197' LT. OF ℄	PRE-SPLIT	13	16'	2'		3/8" GRAV.	416 SQ. FT.	400' 200 GR. 35' E COF
1	8/25/84	SNIABAR	834	12+76-13+10	195' TO 100' RT ℄	PRODUCTION	92	7.5'	7'	5'	4½'	720 CU. YDS.	850* MAYNES 105* UN
2	8/28/84	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	838	13+15-13+40	185' TO 60' RT. ℄	PRODUCTION	87	7.5'	7'	5	3½'	900 CU. YDS.	850* MAYNES 105* UN
3	8/31/84	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	841	13+40-14+00	℄ TO 195' RT	PRODUCTION	157	8'-12'	7	6'	3½'	1900 CU. YDS.	2350* MAYNES 190* U
4	9/6/84	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	841	14+50-14+90	℄ TO 195' RT.	PRODUCTION	131	9'-13'	7'	6'	4'	2020 CU. YDS.	2000* MAYNES 175* U
5	9/11/84	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	842	14+70-15+00	℄ TO 195' RT	PRODUCTION	155	10'-12'	7'	6'	5'	2508 CU. YDS.	2400* MAYNES 400* U
6	9/13/84	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	841	15+30-15+50±	℄ TO 195' RT	PRODUCTION	125	11.5'	7'	6'	5'	2150 CU. YDS.	2350* MAYNES 225* U
7	9/20/84	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	842	15+42-15+75	℄ TO 195' RT	PRODUCTION	122	11.5'	7'	6'	5'	2108 CU. YDS.	2150* MAYNES 200* U
8	9/22/84	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	843	15+85-16+13	℄ TO 185' LT.	PRODUCTION	122	11.5'	7'	6'	5'	2108 CU. YDS.	2100* MAYNES 250* U
9	9/26/84	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	843	16+13-16+45	℄ TO 195' RT	PRODUCTION	121	12'	7'	6'	5'	2200 CU. YDS.	2250* MAYNES 250* U
10	10/8/84	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	842	15+50-16+50	℄ TO 30' LT.	PRODUCTION	69	12'	7'	6'	5'	1213 CU. YDS.	1525* MAYNES 113* U
11	10/10/84	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	842	15+50-16+50	30' LT TO 60' LT	PRODUCTION	70	13'	7	6'	5'	1372 CU. YDS.	1750* MAYNES 150* U
12	10/12/84	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	842	15+50-16+50	60'-90' LT.	PRODUCTION	72	12.5'	7'	6'	5'	1400 CU. YDS.	1350* MAYNES 300* U
13	11/5/84	BETHANY FALLS	864 ±	17+75-18+25	110' TO 195' RT	PRE-SPLIT	45	21'	9'	8'	3½'	2200 CU. YDS.	1700* 16.2 300* UN
16	4/12/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	840	15+45-14+65	℄ TO 197' LT	PRE-SPLIT	36	14'	2'	0	3/8" GRAV.	900 CU. YDS.	1000' 200 GR. 100' E
14	4/16/85	SNIABAR	832	15+00-16+00	50' LT TO ℄	PRODUCTION	153	6'	6'	4'	3'	850 CU. YDS.	1025* MAYNES 130* U
15	4/18/85	SNIABAR	935	15+00-16+00	70' LT. TO ℄	PRODUCTION	97	6'-11'	5'	5'	3½'	1260 CU. YDS.	1200* MAYNES 100*
16	4/19/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	0940	15+00-16+00	95' LT TO ℄	PRODUCTION	60	10'	8'	5'	4	815 CU. YDS.	1025* MAYNES 65* UN
17	4/24/85	BETHANY FALLS	921	17+20-17+40	120' LT. TO ℄	PRODUCTION	42	21'	10'	8'	8'	2315 CU. YDS.	1650* MAYNES 74* UN
18	5/3/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	840	17+00-16+50	140 LT. TO ℄	PRODUCTION	32	12'-14'	8'	5'	4'	540 CU. YDS.	700* MAYNES 40* UNI
19	5/22/85	BETHANY FALLS	863	17+50-18+00	100' LT TO ℄	PRODUCTION	44	21'	10'	8'	4'	2695 CU. YDS.	1720* MAYNES 96* UN
-	6/25/86	BOULDERS	-	07+00-17+50	LT. TO ℄	-	67	8"X2'	-	-	-	-	3* HERCUSPLIT 5.5* U
-	6/26/86	BOULDERS	-	17+00-17+50	100' RT. TO ℄	-	20	-	-	-	-	-	4* UNIGEL
20	6/27/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	?	26+00-25+60	112' RT OF ℄	PRODUCTION	91	9'	7'	5'	4'	911 CU. YDS.	400* MAYNES 150* UN
21	7/1/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	837-840	25+50-25+00	105' RT. TO ℄	PRODUCTION	79	9-12'	7'	5'	4'	1070 CU. YDS.	900* MAYNES 356* UN
22	7/3/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	0840	25+00-24+50	108' RT. TO ℄	PRODUCTION	76	12'	8'	6'	4'	1365 CU. YDS.	1000* MAYNES 210*
23	7/5/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	841	24+12-24+48	106' RT. TO ℄	PRODUCTION	57	13.5'	8'	6'	4'	1152 CU. YDS.	1100* MAYNES 70* UN
24	9/12/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	842	23+75-24+10	112' RT TO ℄	PRODUCTION	59	12.5'	8'	6'	-	1070 CU. YDS.	1125* MAYNES 66* UN
25	9/16/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	942	23+25-23+70	100' RT. TO ℄	PRODUCTION	69	12.5	8'	6'	4'	1263 CU. YDS.	1025* MAYNES 400* U
26	9/18/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	837	24+50-25+00	100' RT. TO ℄	PRODUCTION	109	5-11	7'	5'	4'	1404 CU. YDS.	900* MAYNES 300* UN
27	9/20/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	836	24+00-24+50	25' RT. TO ℄	PRODUCTION	104	5-11'	7'	5'	4'	1120 CU. YDS.	1100* MAYNES 100*
28	9/26/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	938	24+00-25+00	80' RT. TO ℄	PRODUCTION	61	5-13'	7-8'	5		1000 CU. YDS.	1100* MAYNES 100*
29	10/2/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	835	24+00-24+30	RT. OF ℄	PRODUCTION	46	8'	7'	5'		480 CU. YDS.	450* MAYNES 75* UNI
30	10/3/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR		24+00-23+50	80' RT TO ℄	PRODUCTION	72	7-9'	7'	5'		810 CU. YDS.	850* MAYNES 66* UNI
31	10/7/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR		24+00-23+75	40' RT. TO ℄	PRODUCTION	72	10'	8'	5'		815 CU. YDS.	900* MAYNES 16* UNI
32	10/8/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR			RT. OF ℄	PRODUCTION	35	10.5'	8'	5'		535 CU. YDS.	700* MAYNES 40* UNI
33	10/17/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR		23+00-22+50		PRODUCTION	86	11'	8'	5'		1470 CU. YDS.	1650* MAYNES 100*

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DAM BLASTING REPORT

UNIT VOL.	EXPLOSIVES (LBS.)	NO. OF CAPS	DELAYS IN MILI/SEC	CARTRIDGE STRENGTH	REMARKS
CU. YDS.	4100# MAYNES 900# UNIGEL	116	0-11	50# SACKS MAYNES MIX #1, 2¼"X16" AND 2"X8" UNIGEL	3½" HOLES, 0.92#/YD. SPILLWAY
CU. YDS.	2300# MAYNES 375# UNIGEL	91	0-9	50# SACKS MAYNES MIX #1, 2"X8" AND 2¼"X16" UNIGEL	3½" HOLES, RT. PRESPLIT SPILLWAY, 0.71#/YD.
CU. YDS.	4050# MAYNES 550# UNIGEL	86	0-10	50# SACKS MAYNES MIX #1, 2"X8" AND 2¼"X16" UNIGEL	3½" HOLES, 1.05#/YD. SPILLWAY
CU. YDS.	2050# MAYNES 350# UNIGEL	44	0-7	50# SACKS MAYNES MIX #1, 2"X8" AND 2¼"X16" UNIGEL	3½" HOLES, 1.04#/YD. SPILLWAY
CU. YDS.	3225# MAYNES 500# UNIGEL	82	0-10	50# SACKS MAYNES MIX #1, 2¼"X16" AND 2"X8" UNIGEL	3½" HOLES, 1.09#/YD. SPILLWAY
CU. YDS.	4625# MAYNES 475# UNIGEL	100	0-10	50# SACKS MAYNES MIX #1, 2¼"X16" AND 2"X8" UNIGEL	3½" HOLES, SPILLWAY 1.02#/YD.
CU. YDS.	5650# MAYNES 175# UNIGEL	127	0-10	50# SACKS MAYNES MIX #1, 2¼"X16" AND 2"X8" UNIGEL	3½" HOLES, SPILLWAY 0.93#/YD.
CU. YDS.	4200# MAYNES 100# UNIGEL	72	0-10	50# SACKS MAYNES MIX #1, 2"X8" UNIGEL	3½" HOLES LEFT PRESPLIT OF SPILLWAY 1.01#/YD.
CU. YDS.	4600# MAYNES 750# UNIGEL	88	3-8	50# SACKS MAYNES MIX #1, 2"X8" AND 2¼"X16" UNIGEL	3½" HOLES, RIGHT PRESPLIT, 1.21#/YD. SPILLWAY
CU. YDS.	4225# MAYNES 500# UNIGEL	77	0-9	50# SACKS MAYNES MIX #1, 2"X8" AND 2¼"X16" UNIGEL	3½" HOLES, SPILLWAY 0.96#/YD.
CU. YDS.	5350# MAYNES 205# UNIGEL	90	0-9	50# SACKS MAYNES MIX #1, 2"X8" AND 2¼"X16" HERCULES UNIGEL	3½" HOLES, 1.27#/YD. SPILLWAY
CU. YDS.	5800# MAYNES 115# UNIGEL	90	0-9	50# SACKS MAYNES MIX #1, 2"X8" AND 2¼"X16" UNIGEL	3½" HOLES, 1.15#/YD SPILLWAY
CU. YDS.	5450# MAYNES 115# UNIGEL	94	0-9	50# SACKS MAYNES MIX #1, 2"X8" AND 2¼"X16" UNIGEL	3½" HOLES, 1#/YD. SPILLWAY
CU. YDS.	8900# MAYNES 150# UNIGEL	130	0-12	50# SACKS MAYNES MIX #1, 2"X8" AND 2¼"X16" UNIGEL	3½" HOLES, 1.34#/YD. SPILLWAY
CU. YDS.	7150# MAYNES 150# UNIGEL	109	0-12	50# SACKS MAYNES MIX #1, 2"X8" AND 2¼"X16" HERCULES UNIGEL	3½" HOLES, 1.19#/YD. RIGHT PRESPLIT OF SPILLWAY
CU. YDS.	6100# MAYNES 260# UNIGEL	90	0-11	50# SACKS MAYNES MIX #1, 2"X8" AND 2¼"X16" UNIGEL	3½" HOLES, 1.23#/YD. SPILLWAY
CU. YDS.	5500# MAYNES 100# UNIGEL	83	0-11	50# SACKS MAYNES MIX #1, 2"X8" AND 2¼"X16" UNIGEL	3½" HOLES, 1.07#/YD. SPILLWAY
CU. YDS.	4000# MAYNES 75# UNIGEL	60	0-9	50# SACKS OF MAYNES MIX #1, 2"X8" HERCULES UNIGEL	3½" HOLES, 0.93#/YD. SPILLWAY
SQ. FT.	3500' 200 GR. 250' E CORD.	1	0	ENSIGN BICKFORD PRIMACORD	3" HOLES, SPILLWAY
SQ. FT.	1200' 200 GR. 100' E CORD.	1	0	PRIMACORD	3" HOLES, SPILLWAY
SQ. FT.	600' 200 GR. 40' E CORD.	1	0	PRIMACORD	3" HOLES SPILLWAY
SQ. FT.	2500' 200 GR. 140' E CORD.	1	12	PRIMACORD	3" HOLES, SPILLWAY
SQ. FT.	2300' 200 GR.	1	12	PRIMACORD	3" HOLES RIGHT SIDE OF SPILLWAY
SQ. FT.	2500' 200 GR. 160' E CORD 2.4# HERCOSPLIT	1	12	PRIMACORD, ⅞"X2' HERCULES HERCOSPLIT	3" HOLES, RIGHT SIDE OF SPILLWAY
SQ. FT.	1600' 200 GR. 100' E CORD.	1	-	PRIMACORD	3" HOLES SPILLWAY
SQ. FT.	1500' 200 GR. 100' E CORD.	1	-	PRIMACORD	3" HOLES SPILLWAY
SQ. FT.	2350' 200GR. 190' E CORD.	1	-	PRIMACORD	3" HOLES, SPILLWAY
SQ. FT.	150' 200 GR. 15' E CORD.	1	-	PRIMACORD	3" HOLES, SPILLWAY
SQ. FT.	1800' 200 GR. 130' E CORD.	1	0	PRIMACORD	3" HOLES, SPILLWAY
SQ. FT.	1650' 200 GR. 130' E CORD.	1	0	PRIMACORD	3" HOLES, SPILLWAY
SQ. FT.	2200' 200 GR. 135' E CORD.	1	0	PRIMACORD	3" HOLES, SPILLWAY
SQ. FT.	1100' 200 GR. 100' E CORD.	1	0	PRIMACORD	3" HOLES, SPILLWAY
SQ. FT.	400' 200 GR. 35' E CORD.	1	0	PRIMACORD	3" HOLES, SPILLWAY
CU. YDS.	850# MAYNES 105# UNIGEL	92	0-10	50# SACKS MAYNES MIX #1, 2"X8" UNIGEL	3½" HOLES, RT. SIDE OF SPILLWAY, 1.3#/YD.
CU. YDS.	850# MAYNES 105# UNIGEL	87	0-10	50# SACKS OF MAYNES MIX #1, 2"X8" HERCULES UNIGEL	3" HOLES, SPILLWAY -1.06#/YD. POWDER FACTOR
CU. YDS.	2350# MAYNES 190# UNIGEL	157	0-10	50# SACKS MAYNES MIX #1, 2¼"X16" & 2"X8" UNIGEL	3" HOLES, SPILLWAY
CU. YDS.	2000# MAYNES 175# UNIGEL	131	0-14	50# SACKS MAYNES MIX #1, 2¼"X16" & 2"X8" UNIGEL	3" HOLES, RT. SIDE OF SPILLWAY, 1.09#/YD.
CU. YDS.	2400# MAYNES 400# UNIGEL	155	0-15	50# SACKS MAYNES MIX #1, 2½"X16" & 2"X8" UNIGEL	3" HOLES, RT. SIDE OF SPILLWAY, 1.12#/YD.
CU. YDS.	2350# MAYNES 225# UNIGEL	125	0-15	50# SACKS MAYNES MIX #1, 2½"X16" & 2"X8" UNIGEL	3" HOLES, SPILLWAY 1.2#/YD.
CU. YDS.	2150# MAYNES 200# UNIGEL	122	0-13	50# SACKS MAYNES MIX #1, 2½"X16" & 2"X8" UNIGEL	3" HOLES, SPILLWAY
CU. YDS.	2100# MAYNES 250# UNIGEL	122	0-13	50# SACKS MAYNES MIX #1, 2½"X16" & 2"X8" HERCULES UNIGEL	3" HOLES, SPILLWAY 1.11#/YD.
CU. YDS.	2250# MAYNES 250# UNIGEL	121	0-13	50# SACKS MAYNES MIX #1, 2½"X16" & 2"X8" HERCULES UNIGEL	3" HOLES, SPILLWAY 1.14#/YD.
CU. YDS.	1525# MAYNES 113# UNIGEL	69	0-9	50# SACKS MAYNES MIX #1, 2"X8" & 2¼"X16" UNIGEL	3" HOLES, SPILLWAY
CU. YDS.	1750# MAYNES 150# UNIGEL	70	0-9	50# SACKS MAYNES MIX #1, 2"X8" & 2¼"X16" UNIGEL	3" HOLES, SPILLWAY 1.4#/YD.
CU. YDS.	1350# MAYNES 300# UNIGEL	73	-	50# SACKS MAYNES MIX #1, 2½"X16" & 2"X8" UNIGEL	3" HOLES, SPILLWAY 1.18#/YD.
CU. YDS.	1700# 16.2 300# UNIMITE 100# UNIGEL	45	0-12	40# & 50# SACKS OF HERCULES H.P. 162, 2¼"X16" UNIMITE & 2"X8" UNIGEL	3" HOLES, SPILLWAY 0.95#/YD.
CU. YDS.	1000' 200 GR. 100' E CORD.	1	0	PRIMACORD	3" HOLES, LEFT SIDE OF SPILLWAY
CU. YDS.	1025# MAYNES 130# UNIGEL	153	0-10	50# SACKS MAYNES 2½"X16", 2"X8" UNIGEL	3" HOLES LT. SIDE OF SPILLWAY 1.24#/CU. YD.
CU. YDS.	1200# MAYNES 100# UNIGEL	97	0-10	50# SACKS MAYNES 2"X8" UNIGEL	3" HOLES, SPILLWAY 1.03#/CU. YD.
CU. YDS.	1025# MAYNES 65# UNIGEL	60	0-8	50# SACKS MAYNES 2"X8" UNIGEL	3" HOLES, SPILLWAY 1.33#/CU. YD.
CU. YDS.	1650# MAYNES 74# UNIMITE 47# UNIGEL	42	0-8	40# SACKS 2¼"X16", 2"X8"	3" HOLES, SPILLWAY 1.36#/CU. YD.
CU. YDS.	700# MAYNES 40# UNIGEL	32	0-6	50# SACKS MAYNES 2"X8" UNIGEL	3" HOLES, LT SIDE SPILLWAY 1.36#/CU. YD.
CU. YDS.	1720# MAYNES 96# UNIMITE 50# UNIGEL	46	1-9	40# BAGS MAYNES 2¼"X16" 2"X8"	3½" HOLES LT. SPILLWAY 0.69#/CU. YD.
-	3# HERCUSPLIT 5.5# UNIGEL 6.5# UNIGEL			⅞"X24", 2"X8", 1¼"X8"	65 BOULDERS IN SPILLWAY 1¼" DIA. HOLES
-	4# UNIGEL			1¼"X8"	BOULDERS LT. SIDE OF SPILLWAY, 1¼" HOLES
CU. YDS.	400# MAYNES 150# UNIMITE 350# UNIGEL 100# UNIGEL	92	0-9	50# SACKS 2¼"X16", 2½"X16", 2"X8"	RT SIDE OF SPILLWAY 3" HOLES 1.1 #/CU. YD.
CU. YDS.	900# MAYNES 356# UNIGEL	79	0-9	50# BAGS 2"X16"	RT. SIDE OF SPILLWAY 3" HOLES 1.17#/CU. YDS.
CU. YDS.	1000# MAYNES 210# UNIGEL 100# UNIGEL	76	0-9	50# SACKS 2½"X16", 2"X8"	3" HOLES, SPILLWAY 0.96#/CU. YD.
CU. YDS.	1100# MAYNES 70# UNIGEL 70# UNIGEL	57	0-8	50# SACKS 2½"X16", 2"X8"	RT. SIDE OF SPILLWAY 3" HOLES 1.08# CU. YDS.
CU. YDS.	1125# MAYNES 66# UNIGEL 55# UNIGEL	59	0-9	50# SACKS 2"X8", 2½"X16"	RT. SIDE OF SPILLWAY 3" HOLES 1.16#/CU. YD.
CU. YDS.	1025# MAYNES 400# UNIGEL 75# UNIGEL	69	0-11	50# SACKS 2½"X16", 2"X8"	RT. SIDE OF SPILLWAY 3" HOLES 1.2#/CU. YD.
CU. YDS.	900# MAYNES 300# UNIGEL 150# UNIGEL	109	0-12	50# SACKS 2½"X16", 2"X8"	RT. SIDE OF SPILLWAY 3" HOLE 0.9#/CU. YD.
CU. YDS.	1100# MAYNES 100# UNIGEL 125# UNIGEL			50# SACKS 2½"X16", 2"X8"	RT. SIDE OF SPILLWAY 3" HOLES 1.18#/CU. YD.
CU. YDS.	1100# MAYNES 100# UNIGEL 100# UNIGEL	69	0-12	50# SACKS 2½"X16", 2"X8"	3" HOLES, SPILLWAY 1.3#/CU. YD.
CU. YDS.	450# MAYNES 75# UNIGEL 50# UNIGEL	46	0-9	50# SACKS 2½"X16" 2"X8"	3" HOLES, SPILLWAY 1.2#/CU. YD.
CU. YDS.	850# MAYNES 66# UNIGEL 100# UNIGEL	72	0-10	50# SACKS 2½"X16", 2"X8"	RT. SIDE SPILLWAY, 3" HOLE, 1.25#/CU. YD.
CU. YDS.	900# MAYNES 16# UNIGEL 60# UNIGEL	56	0-9	50# SACKS 2½"X16", 2"X8"	RT. SIDE OF SPILLWAY, 3" HOLES, 1.2#/CU. YD.
CU. YDS.	700# MAYNES 40# UNIGEL	36	0-8	50# SACKS 2½"X16", 2"X8"	RT. SIDE OF SPILLWAY, 3" HOLES, 1.3#/CU. YD.
CU. YDS.	1650# MAYNES 100# UNIGEL 100# UNIGEL	86	0-10	50# SACKS 2½"X16", 2"X8"	3" HOLES 1.2#/CU. YD.

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Revisions			
Symbol	Descriptions	Date	Approved

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:	US Army Corps of Engineers — EAST FORK LITTLE BLUE RIVER, MISSOURI / BLUE SPRINGS LAKE / CONSTRUCTION FOUNDATION REPORT
Drawn by: V.A.B.	BLASTING SCHEDULE
Checked by:	Scale: AS SHOWN — Sheet number: 87 — Plot Scale: S=.0833
Submitted by:	Date: JUNE 1990 — Design File: [100.63]BS2.DGN
	Dwg. No.: — File No.: RBL-2-1307

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BLUE SPRINGS DAM BLASTING

SHOT NO.	DATE	GEOLOGIC LOCATION	ELEV.	LOCATION STATION	LOCATION RANGE	PURPOSE	NO. OF HOLES	DEPTH (FT.)	SPACING (FT.)	BURDEN (FT.)	STEM (FT.)	SHOT VOL.	EXPLOSIVES
34	10/17/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR		23+50-23+00	RT. OF ℄	PRODUCTION	40	11	8'	5'	4'	611 CU. YDS.	825* MAYNES 50* UNIGEL
35	10/22/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR		24+00-23+50	LT. OF ℄	PRODUCTION	57	6'	6'	5'		480 CU. YDS.	300* MAYNES 50* UNIGEL
36	10/23/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR		23+00	LT. OF ℄	PRODUCTION	70	11.5'	8'	5.5'	4'	1288 CU. YDS.	1375* MAYNES 50* UNIGEL
37	10/24/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR		24+00-23+50	LT. OF ℄	PRODUCTION	72	8.5'	7'	5'	4'	776 CU. YDS.	825* MAYNES 50* UNIGEL
38	10/25/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR		23+00-23+30	60' LT. TO ℄	PRODUCTION						990 CU. YDS.	1075* MAYNES 10* UNIGEL
39	10/26/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR		23+00-22+30	40' LT. TO ℄	PRODUCTION	71	12.0'	8'	5.5'	4'	1396 CU. YDS.	1650* MAYNES 50* UNIGEL
40	10/28/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR		23+00-22+70	℄	PRODUCTION	51	12.0	8'	5.5'	4'	976 CU. YDS.	1000* MAYNES 50* UNIGEL
41	10/30/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR		22+80-22+60	25 LT. TO ℄	PRODUCTION	62	12'	8'	5'	4'	960 CU. YDS.	1300* MAYERS 30* UNIGEL
42	10/31/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR		22+50-23+00	70' RT. TO ℄	PRODUCTION	26	12'	8'	5'	4'	428 CU. YDS.	500* MAYNES 7* UNIGEL 30*
43	11/4/85	BETHANY FALLS		20+00-20+50	140 LT. TO ℄	PRODUCTION	44	22'	10'	8'	X	871 CU. YDS.	1560 * H.P. 162, 200* MAYN
44	11/7/85	BETHANY FALLS		18+00	40' LT. TO ℄	PRODUCTION	39	21'	10'	8'	X	2587 CU. YDS.	1360* H.P. 162, 225* MAYNES
45	11/8/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR		23+11-23+30	137 RT. TO ℄	PRODUCTION	53	12'	8'	5'	X	960 CU. YDS.	1025* MAYNES 10* UNIGEL
46	11/21/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR		23+50-23+00	100' LT TO ℄	PRODUCTION	34	6'	5'	5'	4'	222 CU. YDS.	175* MAYNES 35* UNIGEL 37
47	11/22/85	LADORE MIDDLE CREEK SNIABAR		23+00-23+50	LT. OF ℄	PRODUCTION	34	7.5'	6'	5'	4'	333 CU. YDS.	200* MAYNES 110* UNIGEL
48	11/25/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR		23+00-23+55	150' LT. TO ℄	PRODUCTION	35	11'	7'	5'	4'	500 CU. YDS.	650* MAYNES 40* UNIGEL
49	11/27/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR		23+00	100' TO 150' LT. OF ℄	PRODUCTION	34	12'	7'	5'	4'	467 CU. YDS.	600* MAYNES 50* UNIGEL
17	4/12/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	20+25-20+75	197' LT. OF ℄	PRE-SPLIT	23	16'	2-2.5'		3/8" GRAV.		800' 200GR.
18	4/15/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	20+75--21+70	197' LT. OF ℄	PRE-SPLIT	48	16'	2'		3/8" GRAV.	1184 SQ. FT.	1650' 200GR.
19	4/16/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	21+70-22+35	197' LT. OF ℄	PRE-SPLIT	36	8'-16'	2'		3/8" GRAV.	959 SQ. FT.	950' 200GR.
50	3/4/86	FILL MIDDLE CREEK LADORE & SNIABAR	840	14+35-14+50	50'-90' LT.	PRODUCTION	27	8'	7'	5'	5'	500 CU. YDS.	425* MAYNES 55* UNIGEL
51	3/4/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	844	14+60-15+50	95'-120 LT. ℄	PRODUCTION	40	12'	8'	5'	5'	972 CU. YDS.	625* MAYNES 55* UNIGEL
52	3/6/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	15+20-15+60	160-124' LT. OF ℄	PRODUCTION	50	12'	8'	6'	5'	1090 CU. YDS.	950* MAYNES 72* UNIGEL
53	3/7/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	15+40-16+40	110'-144' LT. ℄	PRODUCTION	42	13'	8'	6'	5'	1063 CU. YDS.	850* MAYNES 40* UNIGEL
54	3/8/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	15+00-15+50	155-185' LT. ℄	PRODUCTION	42	12'	8'	6'	5'	907 CU. YDS.	750* MAYNES 86* UNIGEL
55	3/17/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	15+50-15+85	155'-185' LT. OF ℄	PRODUCTION	48	13	8'	6	5'	1136 CU. YDS.	1025 * MAYNES 85* UNIGEL
56	3/20/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	15+50-15+80	155'-195' LT. OF ℄	PRODUCTION	55	12.8'	8'	6	5'	1221 CU. YDS.	1250* MAYNES 323* UNIGEL
57	3/21/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	16+00-16+50	155'-185' LT. OF ℄	PRODUCTION	57	13'	8'	5.5'	5'	1248 CU. YDS.	1150* MAYNES 163* UNIGEL
58	3/21/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	845	23+30-23+10	50'-90' LT. ℄	PRODUCTION	21	12'	8'	5'	5'	430 CU. YDS.	450* MAYNES 46* UNIGEL
59	3/24/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	845	23+10-22+90	100'-150' LT. ℄	PRODUCTION	20	13'	8'	5'	5'	405 CU. YDS.	450* MAYNES 25* UNIGEL
60	3/25/86	BETHANY FALLS			50'-122' RT. ℄	PRODUCTION	24	22'	12'	10	4'	2464 CU. YDS.	1650* MAYNES 9* UNIMITE
61	3/27/86	BETHANY FALLS	866	17+80-18+20	195'-115' RT ℄	PRODUCTION	37	22'	10'	8	4'	2205 CU. YDS.	1400* MAYNES 105*UNIGEL
62	3/29/86	BETHANY FALLS	866	18+10-18+50	130'-55' LT. ℄	PRODUCTION	30	22.5'	12'	10'	4'	2250 CU. YDS.	2000* 100, 47* 62, 35* UNI
63	4/1/86	BETHANY FALLS	866	18+70-18+30	55' LT. TO 30' RT	PRODUCTION	29	22.5'	12'	10'	4'	2800 CU. YDS.	2050* 100, 33* UNIGEL 19*
64	4/5/86	BETHANY FALLS	866	18+50-18+80	30'-124' RT ℄	PRODUCTION	28	22.5'	12'	10'	4'	2800 CU. YDS.	2000* 100, 50* 62, 33* UN
65	4/7/86	HUSHPUCKNEY MIDDLE CREEK LADORE SNIABAR	846	23+00-22+50	25' LT. TO ℄	PRODUCTION	46	12.5'	8'	6'	4'	1000 CU. YDS.	1200* 100, 50* 62, 62* UN
67	4/9/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	21+00-21+50	55' TO 85' LT. ℄	PRODUCTION	45	12'	8'	6'	4'	853 CU. YDS.	800* 100, 80* 62, 72.5* UN
68	4/10/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	21+25-20+75	125 TO 135 LT. ℄	PRODUCTION	42	12'	8'	6	4'	960 CU. YDS.	700* MAYNES 162* 62, 75*
69	4/11/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	21+00-20+50	135' TO 155' LT.	PRODUCTION	42	12'	8'	5	4'	830 CU. YDS.	850* MAYNES 80* 162, 72*
70	4/17/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846-839	22+50-22+80	197 TO 145' LT. ℄	PRODUCTION	50	7-12'	7	5	4	425 CU. YDS.	600* MAYNES 583* UNIGEL
71	4/18/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	22+00-22+25	197' TO 133' LT. ℄	PRODUCTION	56	12.5'	8'	5	4'	1137 CU. YDS.	1050* MAYNES 97* UNIGEL
72	4/19/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	21+50-22+00	100' TO 135' LT ℄	PRODUCTION	53	12.5'	8'	5'		1000 CU. YDS.	1100* MAYNES 165* UNIGEL
73	4/21/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	22+00-21+00	135 TO 157' LT. ℄	PRODUCTION	54	12.5'	8'	5	4'	1336 CU. YDS.	1200* MAYNES 110* UNIGEL
74	4/22/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	20+25-20+75	150' TO 180' LT ℄	PRODUCTION	52	12.5'	8'	5'		750 CU. YDS.	1000* MAYNES 150* UNIGEL
75	4/23/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	20+25-21+10	150' TO 185' LT ℄	PRODUCTION	53	12.5'	8'	5'		900 CU. YDS.	1075* MAYNES 90* UNIGEL
76	4/24/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	21+50-22+00	185' TO 155' LT. ℄	PRODUCTION	35	12.5'	8'	6'	4'	55 CU. YDS.	800* MAYNES 50* UNIGEL
77	4/25/86	BETHANY FALLS				PRODUCTION	37	8'-13'	9'	6'		560 CU. YDS.	600* MAYNES 90* UNIGEL
78	4/26/86	BETHANY FALLS				PRODUCTION	30	12'-15'	9'	6'	4'	670 CU. YDS.	575* MAYNES 35* UNIGEL
79	4/29/86	BETHANY FALLS				PRODUCTION	39	12'	9'	6'	4 1/2'	800 CU. YDS.	825* MAYNES 45* UNIGEL
80	4/30/86	BETHANY FALLS				PRODUCTION	48	9.5'-11'	9'	6'	4 1/2'	703 CU. YDS.	775* MAYNES 53* UNIGEL
81	5/1/86	BETHANY FALLS				PRODUCTION	70	7'-8'	9'-8'	5'	4'	802 CU. YDS.	700* MAYNES 66* UNIGEL
82	5/5/86					PRODUCTION	100	6.5'	7'	4'	4'	567 CU. YDS.	600* MAYNES 116* UNIGEL
83	8/9/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	844	16+50-16+76	130' RT. TO ℄	PRODUCTION	71	12'	8'	6	4'	1480 CU. YDS.	1450* MAYNES 105* UNIGEL
84	8/13/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	844	16+50-16+75	℄ TO 120' RT.	PRODUCTION	65	12'	8'	6'	4'	1390 CU. YDS.	1425* MAYNES 98* UNIGEL
85	8/14/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	844	16+75-17+00	℄ TO 120' RT.	PRODUCTION	67	12'	8'	6'	4'	1290 CU. YDS.	1350* MAYNES 85* UNIGEL
86	8/18/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	844	16+75 17+00	RT OF ℄ TO ℄	PRODUCTION	94	12'	8'	5'	5'	1600 CU. YDS.	1850* MAYNES 125* UNIGEL
87	8/20/86	BETHANY FALLS	865	18+50-18+70	195' RT. TO ℄	PRODUCTION	35	22'	10'	8'		1408 CU. YDS.	1200* E.P. 102, 150* MAYNES MX
88	8/21/86	BETHANY FALLS	865	17+50-18+00	170' LT. TO ℄	PRODUCTION	12	22'	12'	10'	5'	1236 CU. YDS.	800* MAYNES 30* HER. E.P. 162, 14*
89	8/22/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	865	17+00 17+25	100' RT. TO ℄	PRODUCTION	61	11	8'	5'	4'	896 CU. YDS.	1150* MAYNES 67* UNIGEL
90	8/25/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	845	17+25-17+00	37'-67' RT OF ℄	PRODUCTION	60	12'	8'	6'	4'	1044 CU. YDS.	1150* MAYNES 3* UNIGEL
91	8/26/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	845	17+00 17+75	70' 130' LT OF ℄	PRODUCTION	45	12'	8'	5'	4'	800 CU. YDS.	825* MAY. 50* IRECO UNIGEL
92	8/28/86	BETHANY FALLS	865	18+50 19+00	65' RT. TO 15' LT. OF ℄	PRODUCTION	30	21'	12'	10'		2426 CU. YDS.	1950* MAYNES 33* UNIGEL 10* IREC
93	9/2/86	BETHANY FALLS	865	18+70-19+10	15'-100' LT. OF ℄	PRODUCTION	28	21'	12'	10'		2613 CU. YDS.	20* H.P.-162, 1625* MAYNES
94	9/3/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	843	21+00		PRODUCTION	49	12'	8'	5.5'		906 CU. YDS.	1000* MAYNES 61.5 UNIGEL
95	9/4/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	843	22+00		PRODUCTION	55	12	8'	5.5'	4'	970 CU. YDS.	1050* MAYNES 50* UNIGEL
96	9/5/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	843	21+00-21+50	72 160' LT. OF ℄	PRODUCTION	32	12'	8'	6'		640 CU. YDS.	650* MAYNES 35* UNIGEL
97	9/9/86	BETHANY FALLS	865	18+00-18+50	70-160' LT. OF ℄	PRODUCTION	30	21'	12'	10'	4	2800 CU. YDS.	1900* MAYNES 33* UNIGEL
98	9/10/86	BETHANY FALLS		18+50		PRODUCTION	18	21'	12'	10'	4'	1563 CU. YDS.	1,125* MAYNES 40* H.P. 162, 35* UN
99	7/14/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	843	16+50-17+65	181-141 RT OF ℄	PRODUCTION	80	10'	8'	5'	4'	1111 CU. YDS.	1150* MAYNES 100* UNIGEL
100	7/17/87	BETHANY FALLS	860	19+00-19+50		PRODUCTION	26	21.5'	12'	10'		2570 CU. YDS.	1750* MAYNES 29* UNIGEL 10* UNIG
101	7/20/87	BETHANY FALLS	867	19+50-20+00	195'-135' RT OF ℄	PRODUCTION	25	21.5'	12'	10'	4'	1600 CU. YDS.	1325* MAYNES 100* UNIGEL 32* UN
102	7/22/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	843	17+65 18+20	173' 61' RT OF ℄	PRODUCTION	105	10' 12'	8	5	4'	1600 CU. YDS.	1475* MAYNES 35* UNIGEL

VALUE ENGINEERING PAYS

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SPRINGS DAM BLASTING REPORT

OT VOL.	EXPLOSIVES (LBS.)	NO. OF CAPS	DELAYS IN MILI/SEC	CARTRIDGE STRENGTH	REMARKS
CU. YDS.	825# MAYNES 50# UNIGEL	40	0-10	50# SACKS 2"X8"	RT. SIDE OF SPILLWAY, 3" HOLES, 1.4#/CU. YD.
CU. YDS.	300# MAYNES 50# UNIGEL	57	0-10	50# SACKS 2"X8"	RT. SIDE OF SPILLWAY, 3" HOLES, 0.90#/CU. YD.
8 CU YDS.	1375# MAYNES 50# UNIGEL	70	0-11	50# SACKS 2"X8"	LT. OF ℄ 3" HOLES, 1.1#/CU. YD.
CU. YDS.	825# MAYNES 50# UNIGEL		0-11	50# SACKS 2"X8"	3" HOLES, 1.1#/CU. YD.
CU. YDS.	1075# MAYNES 10# UNIGEL 70# UNIGEL	61	0-11	50# SACKS 2½"X16", 2"X8"	LT. SIDE OF SPILLWAY, 3" HOLES, 1.2#/CU. YD.
6 CU. YDS.	1650# MAYNES 50# UNIGEL 10# UNIGEL	71	0-10	50# SACKS 2"X8", 2½"X16"	LT. SIDE OF SPILLWAY, 3" HOLES, 1.2#/CU. YDS.
CU YDS.	1000# MAYNES 50# UNIGEL 60# UNIGEL	51	0-10	50# SACKS 2½"X16", 2"X8"	NEAR ℄ 3" HOLES, 1.1#/CU. YD.
CU. YDS.	1300# MAYERS 30# UNICEL 70# UNIGEL	62	0-10	50# SACKS 2½"X16", 2"X8"	3" HOLES, 1.4 CU. YDS.
CU. YDS.	500# MAYNES 7# UNIGEL 30# UNIGEL	26	0-8	50# SACKS 2½"X16", 2"X8"	3" HOLES, 1.25#/CU. YD.
CU. YDS.	1560 # H.P. 162, 200# MAYNES	45	0-15	40# SACKS 50# SACKS	LT. SIDE OF SPILLWAY, 3½" HOLES, 1.4#/CU. YD.
CU. YDS.	1360# H.P. 162, 225# MAYNES, 35# UNIMITE, 50# UNIGEL	39	0-8	40# SACKS, 50# SACKS, 2¼"X16", 2"X8"	LT. SIDE OF SPILLWAY 3½" HOLES, 1.5#/CU. YD.
CU. YDS.	1025# MAYNES 10# UNIGEL 60# UNIGEL	53	0-11	50# SACKS 2½"X16", 2"X8"	RT. SIDE OF SPILLWAY 3" HOLES, 1.14#/CU. YD.
CU YDS.	175# MAYNES 35# UNIGEL 37# UNIGEL	34	0-7	50# SACKS 2½"X16", 2"X8"	LT. SIDE OF SPILLWAY 3" HOLES, 1.1#/CU. YD.
CU YDS.	200# MAYNES 110# UNIGEL 40# UNIGEL	35	0-9	50# SACKS 2½"X16", 2"X8"	LT. OF ℄ 3" DIA. HOLES 1.1#/CU. YD.
CU. YDS.	650# MAYNES 40# UNIGEL	35	0-10	50# SACKS 2"X8"	3" HOLES 1.18#/CU. YD.
CU. YDS.	600# MAYNES 50# UNIGEL 40# UNIGEL	34	0-11	50# SACKS 2½"X16", 2"X8"	LT. SIDE OF SPILLWAY 3" HOLES, 1.47#/CU. YD.
	800' 200GR.	1	15	ENSIGN BICKFORD PRIMACORD	3" HOLES, SPILLWAY
4 SQ. FT.	1650' 200GR.	1	-	PRIMACORD	3" HOLES, SPILLWAY
SQ. FT.	950' 200GR.	1	-	PRIMACORD	3" HOLES, SPILLWAY
CU. YDS.	425# MAYNES 55# UNIGEL	27	-	50# SACKS MAYNES MIX #1, 2"X8" HERCULES UNIGEL	3" HOLES, SPILLWAY 0.91#/YD.
CU YDS.	625# MAYNES 55# UNIGEL	40	0-9	50# SACKS MAYNES MIX #1, 2"X8" & 2 3/4"X16" UNIGEL (HERCULES)	3" HOLES, SPILLWAY 0.70#/YD.
CU. YDS.	950# MAYNES 72# UNIGEL	50	0-9	50# SACKS MAYNES MIX #1, 2"X8" & 2¼"X16" IRECO UNIGEL	3" HOLES, SPILLWAY, 0.94#/YD.
CU. YDS.	850# MAYNES 40# UNIGEL	42	0-9	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	3" HOLES, SPILLWAY, 0.84#/YD.
CU. YDS.	750# MAYNES 86# UNIGEL	42	0-9	50# SACKS MAYNES MIX #1, 2½"X16" AND 2"X8" IRECO UNIGEL	3" HOLES, SPILLWAY, 0.90#/YD.
CU. YDS.	1025 # MAYNES 85# UNIGEL	48	0-9	50# SACKS MAYNES MIX #1, 2½"X16" & 2"X8" IRECO UNIGEL	3" HOLES, SPILLWAY 0.98#/YD.
CU. YDS.	1250# MAYNES 323# UNIGEL	55	-	50# SACKS MAYNES MIX #1, 2½"X16" & 2"X8" IRECO UNIGEL	3" HOLES, SPILLWAY 1.1#/YD.
CU. YDS.	1150# MAYNES 163# UNIGEL	57	0-10	50# SACKS MAYNES MIX #1, 2"X8" & 2½"X16" IRECO UNIGEL	3" HOLES, SPILLWAY 1.0#/YD.
CU. YDS.	450# MAYNES 46# UNIGEL	21	0-9	50# SACKS MAYNES MIX #1, 2"X8" & 2½"X16" IRECO UNIGEL	3" HOLES, SPILLWAY 1#/YD.
CU. YDS.	450# MAYNES 25# UNIGEL	20	0-8	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	3" HOLES, SPILLWAY 1#/YD.
CU YDS.	1650# MAYNES 9# UNIMITE 25# UNIGEL	25	0-6	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL, 2¼"X16" IRECO UNIMITE	3½" HOLES, SPILLWAY 0.68#/YD.
U. YDS.	1400# MAYNES 105# UNIGEL	37	0-12	50# SACKS MAYNES MIX #1, 2"X8" & 2½"X16" IRECO UNIGEL	3½" HOLES, SPILLWAY 0.68#/YD.
CU. YDS.	2000# 100, 47# 62, 35# UNIGEL	30	0-10	50# SACKS IREMEX 100, 2¼"X16" IREMITE 62, 2"X8" UNIGEL	3½" HOLES, SPILLWAY 0.92#/YD.
CU. YDS.	2050# 100, 33# UNIGEL 19# 62	29	0-8	50# SACKS IRECO 100, 2"X8" IRECO UNIGEL 2¼"X16" IREMITE 62	3½" HOLES, SPILLWAY 0.75#/YD.
CU. YDS.	2000# 100, 50# 62, 33# UNIGEL	29	0-8	50# SACKS IREMEX 100, 2¼"X16" IREMITE 62, 2"X8" IRECO UNIGEL	3½" HOLES, 0.75#/YD. SPILLWAY
CU. YDS.	1200# 100, 50# 62, 62# UNIGEL	46	0-10	50# SACKS IRECO IREMITE 100, 2"X8" IRECO UNIGEL, 2¼"X16" IRECO IREMITE 62	3" HOLES, SPILLWAY 1.2#/YD.
YDS.	800# 100, 80# 62, 12.5# UNIGEL	45	0-11	50# SACKS IREMEX 100, 2¼"X16" IREMITE 62, 2½"X16" IRECO UNIGEL	SPILLWAY
YDS.	700# MAYNES 162# 62, 75# UNIMITE 50# UNIGEL	42	0-10	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL, 2½"X16" IRECO UNIMITE, 2¼"X16" IRECO IREMITE 62	3" HOLES, SPILLWAY 1#/YD.
YDS.	850# MAYNES 80# 162, 72# UNIGEL	42	0-10	50# SACKS MAYNES MIX #1, 2¼"X16" IRECO IREMITE 162, 2"X8" AND 2½"X16" IRECO UNIGEL	3" HOLES, SPILLWAY 1.2#/YD
YDS.	600# MAYNES 583# UNIGEL 38# 62	50	0-11	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL, 2½"X16" UNIGEL 2¼"X16" IREMITE 62	3" HOLES, SPILLWAY 1.5#/YD.
YDS.	1050# MAYNES 97# UNIGEL 36# 62	57	0-11	50# SACKS MAYNES MIX #1, 2½"X16" AND 2"X8" IRECO UNIGEL, 2¼"X16" IREMITE 62	3" HOLES, SPILLWAY 1.0#/YD.
YDS.	1100# MAYNES 165# UNIGEL 23# 62	53	0-13	50# SACKS MAYNES MIX #1, 2½"X16" & 2"X8" IRECO UNIGEL, 2¼"X16" IREMITE 62	3" HOLES, SPILLWAY 1.29#/YD.
YDS.	1200# MAYNES 110# UNIGEL	54	0-14	50# SACKS MAYNES MIX #1, 2½"X16" AND 2"X8" IRECO UNIGEL	3" HOLES, SPILLWAY 1.0#/YD.
YDS.	1000# MAYNES 150# UNIGEL 30# 62	52	0-12	50# SACKS MAYNES MIX #1, 2"X8" & 2½"X16" UNIGEL, 2¼"X16" IREMITE 62	3" HOLES, SPILLWAY 1.5#/YD.
YDS.	1075# MAYNES 90# UNIGEL 34# 62	53	0-12	50# SACKS MAYNES MIX #1, 2½"X16" AND 2"X8" UNIGEL, 2¼"X16" IRECO IREMITE 62	3" HOLES, SPILLWAY 1.3#/YD.
YDS.	800# MAYNES 50# UNIGEL	35	0-10	50# SACKS MAYNES MIX #1, 2"X8" & 2½"X16" IRECO UNIGEL	3" HOLES, SPILLWAY 1.5#/YD.
CU. YDS.	600# MAYNES 90# UNIGEL	37	0-8	50# SACKS MAYNES MIX #1, 2"X8" & 2½"X16" IRECO UNIGEL	3" HOLES, HAUL ROAD, 1.2#/YD.
CU. YDS.	575# MAYNES 35# UNIGEL	30	0-8	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	3" HOLES, HAUL ROAD, 0.90#/YD.
CU. YDS.	825# MAYNES 45# UNIGEL	39	0-10	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	3" HOLES, HAUL ROAD, 1.1#/YD.
CU. YDS.	775# MAYNES 53# UNIGEL	48	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	3" HOLES, HAUL ROAD 1.2#/YD.
CU. YDS.	700# MAYNES 66# UNIGEL	70	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	3" HOLES, HAUL ROAD, 0.95#/YD.
CU. YDS.	600# MAYNES 116# UNIGEL	100	-	50# SACKS MAYNES MIX #1, 2"X8" & 2¼"X16" IRECO UNIGEL	3" HOLES, HAUL ROAD, 1.26#/YD.
CU. YDS.	1450# MAYNES 105# UNIGEL	71	0-14	50# SACKS MAYNES MIX #1, 2"X8" & 2½"X16" IRECO UNIGEL	3" HOLES, SPILLWAY 1.05#/YD.
CU. YDS.	1425# MAYNES 98# UNIGEL	65	-	50# SACKS MAYNES MIX #1, 2½"X16" & 2"X8" IRECO UNIGEL	3" HOLES, SPILLWAY 1.1#/YD.
CU. YDS.	1350# MAYNES 85# UNIGEL	67	0-13	50# SACKS MAYNES MIX #1, 2"X8" & 2½"X16" IRECO UNIGEL	3" HOLES, SPILLWAY 1.5#/YD.
CU. YDS.	1850# MAYNES 125# UNIGEL	94	0-15	50# SACKS 2"X8", 2½"X16"	3" HOLES, SPILLWAY 1.2#/CU. YD.
CU. YDS.	1200# E.P. 102, 150# MAYNES MIX 30# IRECO IREMIT 62, 38# UNIGEL	35	0-14	40# SACKS, 50# SACKS, 2¼"X16", 2"X8"	3½" HOLES, SPILLWAY 1.0#/YD.
CU. YDS.	800# MAYNES, 30# HER. E.P. 162, 14# IRE. UNIGEL	12	0-8	50# SACKS, 40# SACKS, 2"X8"	3½" HOLES, SPILLWAY 0.68#/CU. YD.
CU. YDS.	1150# MAYNES 67# UNIGEL	61	0-12	50# SACKS 2"X8"	3" HOLES, SPILLWAY 1.36#/CU. YDS.
CU. YDS.	1150# MAYNES 3# UNIGEL 70# UNIGEL	60	0-12	50# SACKS 2½"X16", 2"X8"	3" HOLES, SPILLWAY 1.2#/CU. YD.
CU. YDS.	825# MAY. 50# IRECO UNIGEL 4# IRECO 62, 10# UNIGEL	45	0-9	50# SACKS 2"X8", 2¼"X16", 2½"X16"	3" HOLES, SPILLWAY 1.1#/CU. YD.
CU. YDS.	1950# MAYNES 33# UNIGEL 10# IRECO 62	30	0-10	50# SACKS 2"X8", 2¼"X16"	3½" HOLES, SPILLWAY 0.82#/CU. YD.
CU. YDS.	20# H.P.-162, 1625# MAYNES 35# UNIGEL 60# UNIGEL	29	0-8	40# SACKS 50# SACKS 2"X8", 2¼"X16"	3½" HOLES, SPILLWAY 0.67#/CU. YD.
CU. YDS.	1000# MAYNES 61.5 UNIGEL	49	0-13	50# SACKS, 2"X8", 2½"X16"	3" HOLES, SPILLWAY 1.17#/CU. YD.
CU. YDS.	1050# MAYNES 50# UNIGEL 60# UNIGEL	55	0-15	50# SACKS 2½"X16", 2"X8"	3" HOLES, SPILLWAY 1.2#/CU. YD.
CU. YDS.	650# MAYNES 35# UNIGEL 13# UNIGEL	32	0-14	50# SACKS 2"X8", 2½"X16"	3" HOLES, SPILLWAY 1.1#/CU. YD.
CU. YDS.	1900# MAYNES 33# UNIGEL 38# UNIMITE	34	0-12	50# SACKS 2"X8", 2½"X16"	3½" HOLES, SPILLWAY 0.70#/CU. YD.
CU. YDS.	1125# MAYNES 40# H.P. 162, 35# UNIGEL 24# UNIMITE	18	0-8	50# SACKS 40# SACKS 2"X8", 2¼"X16"	3½" HOLES, SPILLWAY 0.78#/CU. YD.
U. YDS.	1150# MAYNES 100# UNIGEL 77# UNIGEL	80	0-8	50# SACKS 2½"X16", 2"X8"	3" HOLES, SPILLWAY 1.11#/CU. YD.
U. YDS.	1750# MAYNES 29# UNIGEL, 10# UNIGEL, 30# H.P. 162	26	0-10	50# BAGS 2"X8", 2½"X16", 2¼"X16"	3½" HOLES, SPILLWAY 0.7#/CU. YD.
U. YDS.	1375# MAYNES 100# UNIGEL, 32# UNIGEL, 28# UNIGEL	25	0-14	50# BAGS, 2¼"X16", 2½"X16", 2"X8"	3½" HOLES, SPILLWAY 0.92#/CU. YD.
CU. YDS.	1475# MAYNES 35# UNIGEL 115# UNIGEL	106	0-12	50# SACKS 2½"X16", 2"X8"	3" HOLES, SPILLWAY 1.0#/CU. YD.

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Revisions			
Symbol	Descriptions	Date	Approved

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:	US Army Corps of Engineers — EAST FORK LITTLE BLUE RIVER, MISSOURI BLUE SPRINGS LAKE CONSTRUCTION FOUNDATION REPORT
Drawn by: V.A.B.	BLASTING SCHEDULE
Checked by:	Scale: AS SHOWN — Sheet number: 88 — Plot Scale: S=.0833
Submitted by:	Date: JUNE 1990 — Design file no.: I100,63\BS3.DGN

36	10/23/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR		23+00	LT OF ℄	PRODUCTION	70	11.5	8	5.5	4	1283 CU. YDS.	1375# MAYNES 50# UNIGEL
37	10/24/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR		24+00-23+50	LT OF ℄	PRODUCTION	72	8.5'	7'	5'	4'	776 CU. YDS.	825# MAYNES 50# UNIGEL
38	10/25/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR		23+00-23+30	60' LT. TO ℄	PRODUCTION						990 CU. YDS.	1075# MAYNES 10# UNIGEL T
39	10/26/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR		23+00-22+30	40' LT TO ℄	PRODUCTION	71	12.0'	8	5.5'	4'	1396 CU. YDS.	1650# MAYNES 50# UNIGEL 1
40	10/28/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR		23+00-22+70	℄	PRODUCTION	51	12.0	8'	5.5'	4'	976 CU. YDS.	1000# MAYNES 50# UNIGEL 6
41	10/30/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR		22+80-22+60	25' LT TO ℄	PRODUCTION	62	12'	8'	5'	4'	960 CU. YDS.	1300# MAYERS 30# UNIGEL 7
42	10/31/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR		22+50-23+00	70' RT. TO ℄	PRODUCTION	26	12'	8'	5'	4'	428 CU. YDS.	500# MAYNES 7# UNIGEL 30#
43	11/4/85	BETHANY FALLS		20+00-20+50	140 LT. TO ℄	PRODUCTION	44	22'	10'	8'	X	871 CU. YDS.	1560 # H.P. 162, 200# MAYNE
44	11/7/85	BETHANY FALLS		18+00	40' LT TO ℄	PRODUCTION	39	21'	10'	8'	X	2587 CU. YDS.	1360# H.P. 162, 225# MAYNES
45	11/8/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR		23+11-23+30	137 RT. TO ℄	PRODUCTION	53	12'	8'	5'	X	960 CU. YDS.	1025# MAYNES 10# UNIGEL 6
46	11/21/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR		23+50-23+00	100' LT TO ℄	PRODUCTION	34	6'	5'	5'	4'	222 CU. YDS.	175# MAYNES 35# UNIGEL 37#
47	11/22/85	LADORE MIDDLE CREEK SNIABAR		23+00-23+50	LT OF ℄	PRODUCTION	34	7.5'	6'	5'	4'	333 CU. YDS.	200# MAYNES 110# UNIGEL 4
48	11/25/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR		23+00-23+55	150' LT. TO ℄	PRODUCTION	35	11'	7'	5'	4'	500 CU. YDS	650# MAYNES 40# UNIGEL
49	11/27/85	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR		23+00	100' TO 150' LT. OF ℄	PRODUCTION	34	12'	7'	5'	4'	467 CU. YDS.	600# MAYNES 50# UNIGEL 40
17	4/12/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	20+25-20+75	197' LT OF ℄	PRE-SPLIT	23	16'	2-2.5'		⅜" GRAV.		800' 200GR.
18	4/15/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	20+75--21+70	197' LT OF ℄	PRE-SPLIT	48	16'	2'		⅜" GRAV.	1184 SQ. FT.	1650' 200GR.
19	4/16/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	21+70-22+35	197' LT. OF ℄	PRE-SPLIT	36	8'-16'	2'		⅜" GRAV.	959 SQ. FT.	950' 200GR.
50	3/4/86	FILL MIDDLE CREEK LADORE & SNIABAR	840	14+35-14+50	50'-90' LT	PRODUCTION	27	8	7'	5'	5'	500 CU. YDS.	425# MAYNES 55# UNIGEL
51	3/4/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	844	14+60-15+50	95'-120' LT ℄	PRODUCTION	40	12'	8'	5'	5'	972 CU. YDS.	625# MAYNES 55# UNIGEL
52	3/6/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	15+20-15+60	160'-124' LT OF ℄	PRODUCTION	50	12'	8'	6'	5'	1090 CU. YDS	950# MAYNES 72# UNIGEL
53	3/7/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	15+40-16+40	110'-144' LT. ℄	PRODUCTION	42	13'	8'	6'	5'	1063 CU. YDS.	850# MAYNES 40# UNIGEL
54	3/8/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	15+00-15+50	155'-185' LT. ℄	PRODUCTION	42	12'	8'	6'	5' -	907 CU. YDS.	750# MAYNES 86# UNIGEL
55	3/17/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	15+50-15+85	155'-185' LT OF ℄	PRODUCTION	48	13'	8'	6'	5'	1136 CU. YDS.	1025 # MAYNES 85# UNIGEL-
56	3/20/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	15+50-15+80	155'-185' LT. OF ℄	PRODUCTION	55	12.8'	8'	6'	5'	1221 CU. YDS.	1250# MAYNES 323# UNIGEL
57	3/21/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	16+00-16+50	155'-185' LT OF ℄	PRODUCTION	57	13'	8'	5.5'	5'	1248 CU. YDS.	1150# MAYNES 163# UNIGEL
58	3/21/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	845	23+30-23+10	50'-90' LT ℄	PRODUCTION	21	12'	8'	5'	5'	430 CU. YDS.	450# MAYNES 46# UNIGEL
59	3/24/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	845	23+10-22+90	100'-150' LT ℄	PRODUCTION	20	13'	8'	5'	5'	405 CU. YDS.	450# MAYNES 25# UNIGEL
60	3/25/86	BETHANY FALLS			50'-122' RT ℄	PRODUCTION	24	22'	12'	10'	4'	2464 CU. YDS.	1650# MAYNES 9# UNIMITE 2
61	3/27/86	BETHANY FALLS	866	17+80-18+20	195'-115' RT ℄	PRODUCTION	37	22'	10'	8'	4'	2205 CU. YDS.	1400# MAYNES 105#UNIGEL
62	3/29/86	BETHANY FALLS	866	18+10-18+50	130'-55' LT ℄	PRODUCTION	30	22.5'	12'	10'	4'	2250 CU. YDS.	2000# 100, 47# 62, 35# UNIG
63	4/1/86	BETHANY FALLS	866	18+70-18+30	55' LT TO 30' RT	PRODUCTION	29	22.5'	12'	10'	4'	2800 CU. YDS.	2050# 100, 33# UNIGEL 19#
64	4/5/86	BETHANY FALLS	866	18+50-18+80	30'-124' RT. ℄	PRODUCTION	28	22.5'	12'	10'	4'	2800 CU. YDS.	2000# 100, 50# 62, 33# UNIG
65	4/7/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	23+00-22+50	25' LT TO ℄	PRODUCTION	46	12.5'	8'	6'	4'	1000 CU. YDS	1200# 100, 50# 62, 62# UNIG
67	4/9/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	21+00-21+50	55' TO 85' LT. ℄	PRODUCTION	45	12'	8'	6'	4'	853 CU. YDS.	800# 100, 80# 62, 72.5# UNIG
68	4/10/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	21+25-20+75	125' TO 135' LT. ℄	PRODUCTION	42	12'	8'	6'	4'	960 CU. YDS.	700# MAYNES 162# 62, 75# L
69	4/11/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	21+00-20+50	135' TO 155' LT.	PRODUCTION	42	12'	8'	5'	4'	830 CU. YDS.	850# MAYNES 80# 162, 72# L
70	4/17/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846-839	22+50-22+80	197' TO 145' LT. ℄	PRODUCTION	50	7'-12'	7'	5'	4'	425 CU. YDS.	600# MAYNES 583# UNIGEL 3
71	4/18/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	22+00-22+25	197' TO 133' LT. ℄	PRODUCTION	56	12.5'	8'	5'	4'	1137 CU. YDS.	1050# MAYNES 97# UNIGEL 3
72	4/19/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	21+50-22+00	100' TO 135' LT ℄	PRODUCTION	53	12.5'	8'	5		1000 CU. YDS.	1100# MAYNES 165# UNIGEL
73	4/21/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	22+00-21+00	135' TO 157' LT ℄	PRODUCTION	54	12.5'	8'	5'	4'	1336 CU. YDS.	1200# MAYNES 110# UNIGEL
74	4/22/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	20+25-20+75	150' TO 180' LT. ℄	PRODUCTION	52	12.5'	8'	5'		750 CU. YDS.	1000# MAYNES 150# UNIGEL
75	4/23/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	20+25-21+10	150' TO 185' LT. ℄	PRODUCTION	53	12.5'	8'	5'		900 CU. YDS.	1075# MAYNES 90# UNIGEL
76	4/24/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	21+50-22+00	185' TO 155' LT ℄	PRODUCTION	35	12.5'	8'	6'	4'	55 CU. YDS.	800# MAYNES 50# UNIGEL
77	4/25/86	BETHANY FALLS				PRODUCTION	37	8'-13'	9'	6'		560 CU. YDS.	600# MAYNES 90# UNIGEL
78	4/26/86	BETHANY FALLS				PRODUCTION	30	12'-15'	9'	6'	4'	670 CU. YDS.	575# MAYNES 35# UNIGEL
79	4/29/86	BETHANY FALLS				PRODUCTION	39	12'	9'	6'	4½'	800 CU. YDS.	825# MAYNES 45# UNIGEL
80	4/30/86	BETHANY FALLS				PRODUCTION	48	9.5'-11'	9'	6'	4½'	703 CU. YDS.	775# MAYNES 53# UNIGEL
81	5/1/86	BETHANY FALLS				PRODUCTION	70	7'-8'	9'-8'	5'	4'	802 CU. YDS.	700# MAYNES 66# UNIGEL
82	5/5/86					PRODUCTION	100	6.5'	7'	4'	4'	567 CU. YDS.	600# MAYNES 116# UNIGEL
83	8/9/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	844	6+50-16+76	130' RT TO ℄	PRODUCTION	71	12'	8'	6'	4'	1480 CU. YDS.	1450# MAYNES 105# UNIGEL
84	8/13/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	844	16+50-16+75	℄ TO 120' RT	PRODUCTION	65	12'	8'	6'	4'	1390 CU. YDS.	1425# MAYNES 98# UNIGEL
85	8/14/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	844	16+75-17+00	℄ TO 120' RT.	PRODUCTION	67	12'	8'	6'	4'	1290 CU. YDS.	1350# MAYNES 85# UNIGEL
86	8/18/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	844	16+75-17+00	RT OF ℄ TO ℄	PRODUCTION	94	12'	8'	5'	5'	1600 CU. YDS.	1850# MAYNES 125# UNIGEL
87	8/20/86	BETHANY FALLS	865	18+30-18+70	195' RT TO ℄	PRODUCTION	35	22'	10'	8'		1408 CU. YDS.	1200# E.P. 102, 150# MAYNES MX 3
88	8/21/86	BETHANY FALLS	865	17+50-18+00	170' LT. TO ℄	PRODUCTION	12	22'	12'	10'	5'	1236 CU. YDS.	800# MAYNES, 30# HER. E.P. 162, 14#
89	8/22/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	865	17+00-17+25	100' RT TO ℄	PRODUCTION	61	11'	8'	5'	4'	896 CU. YDS.	1150# MAYNES 67# UNIGEL
90	8/25/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	845	17+25-17+00	37'-67' RT OF ℄	PRODUCTION	60	12'	8'	6'	4'	1044 CU. YDS.	1150# MAYNES 3# UNIGEL 7
91	8/26/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	845	17+00-17+75	70'-130' LT OF ℄	PRODUCTION	45	12'	8'	5'	4'	800 CU. YDS.	825# MAY. 50# IRECO UNIGEL
92	8/28/86	BETHANY FALLS	865	18+50-19+00	65' RT. TO 15' LT OF ℄	PRODUCTION	30	21'	12'	10'		2426 CU. YDS.	1950# MAYNES 33# UNIGEL 10# IRECO
93	9/2/86	BETHANY FALLS	865	18+70-19+10	15'-100' LT OF ℄	PRODUCTION	28	21'	12'	10'		2613 CU. YDS.	20# H.P.-162, 162½# MAYNES
94	9/3/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	843	21+00		PRODUCTION	49	12'	8'	5.5'		906 CU. YDS.	1000# MAYNES 61.5 UNIGEL
95	9/4/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	843	22+00		PRODUCTION	55	12'	8'	5.5'	4'	970 CU. YDS.	1050# MAYNES 50# UNIGEL
96	9/5/86	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	843	21+00-21+50	72 160' LT. OF ℄	PRODUCTION	32	12'	8'	6'		640 CU. YDS.	650# MAYNES 35# UNIGEL
97	9/9/86	BETHANY FALLS	865	18+00-18+50	70-160' LT. OF ℄	PRODUCTION	30	21'	12'	10'	4'	2800 CU. YDS.	1900# MAYNES 33# UNIGEL
98	9/10/86	BETHANY FALLS		18+50		PRODUCTION	18	21'	12'	10'	4'	1563 CU. YDS.	1125# MAYNES 40# H.P. 162, 35# UN
99	7/4/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	843	16+50-17+65	181-141 RT OF ℄	PRODUCTION	80	10'	8'	5'	4'	1111 CU. YDS.	1150# MAYNES 100# UNIGEL
100	7/17/87	BETHANY FALLS	860	19+00-19+50		PRODUCTION	26	21.5'	12'	10'		2570 CU. YDS.	1750# MAYNES, 29# UNIGEL, 10# UNI
101	7/20/87	BETHANY FALLS	867	19+50-20+00	195'-135' RT OF ℄	PRODUCTION	25	21.5'	12'	10'	4'	1600 CU. YDS.	1325# MAYNES, 100# UNIGEL, 32# UN
102	7/22/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	843	17+65-18+20	173'-61' RT OF ℄	PRODUCTION	105	10-12'	8'	5'	4'	1600 CU. YDS.	1475# MAYNES 35# UNIGEL

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INGS DAM BLASTING REPORT

VOL.	EXPLOSIVES (LBS.)	NO. OF CAPS	DELAYS IN MILI/SEC	CARTRIDGE STRENGTH	REMARKS
YDS.	825# MAYNES 50# UNIGEL	40	0-10	50# SACKS 2"X8"	RT. SIDE OF SPILLWAY, 3" HOLES, 1.4#/CU. YD.
YDS.	300# MAYNES 50# UNIGEL	57	0-10	50# SACKS 2"X8"	RT. SIDE OF SPILLWAY, 3" HOLES, 0.90#/CU. YD.
YDS.	1375# MAYNES 50# UNIGEL	70	0-11	50# SACKS 2"X8"	LT. OF ℄ 3" HOLES, 1.1#/CU. YD.
YDS.	825# MAYNES 50# UNIGEL		0-11	50# SACKS 2"X8"	3" HOLES, 1.1#/CU. YD.
YDS.	1075# MAYNES 10# UNIGEL 70# UNIGEL	61	0-11	50# SACKS 2½"X16", 2"X8"	LT. SIDE OF SPILLWAY, 3" HOLES, 1.2#/CU. YD.
YDS.	1650# MAYNES 50# UNIGEL 10# UNIGEL	71	0-10	50# SACKS 2"X8", 2½"X16"	LT. SIDE OF SPILLWAY, 3" HOLES, 1.2#/CU. YDS.
YDS.	1000# MAYNES 50# UNIGEL 60# UNIGEL	51	0-10	50# SACKS 2½"X16", 2"X8"	NEAR ℄ 3" HOLES, 1.1#/CU. YD.
YDS.	1300# MAYERS 30# UNIGEL 70# UNIGEL	62	0-10	50# SACKS 2½"X16", 2"X8"	3" HOLES, 1.4 CU. YDS.
YDS.	500# MAYNES 7# UNIGEL 30# UNIGEL	26	0-8	50# SACKS 2½"X16", 2"X8"	3" HOLES, 1.25#/CU. YD.
YDS.	1560 # H.P. 162, 200# MAYNES	45	0-15	40# SACKS 50# SACKS	LT. SIDE OF SPILLWAY, 3½" HOLES, 1.4#/CU. YD.
YDS.	1360# H.P. 162, 225# MAYNES, 35# UNIMITE, 50# UNIGEL	39	0-8	40# SACKS, 50# SACKS, 2¼"X16", 2"X8"	LT. SIDE OF SPILLWAY 3½" HOLES, 1.5#/CU. YD.
YDS.	1025# MAYNES 10# UNIGEL 60# UNIGEL	53	0-11	50# SACKS 2½"X16", 2"X8"	RT. SIDE OF SPILLWAY 3" HOLES, 1.14#/CU. YD.
YDS.	175# MAYNES 35# UNIGEL 37# UNIGEL	34	0-7	50# SACKS 2½"X16", 2"X8"	LT. SIDE OF SPILLWAY 3" HOLES, 1.1#/CU. YD.
YDS.	200# MAYNES 110# UNIGEL 40# UNIGEL	35	0-9	50# SACKS 2½"X16", 2"X8"	LT. OF ℄ 3" DIA. HOLES 1.1#/CU. YD.
YDS.	650# MAYNES 40# UNIGEL	35	0-10	50# SACKS 2"X8"	3" HOLES 1.18#/CU. YD.
YDS.	600# MAYNES 50# UNIGEL 40# UNIGEL	34	0-11	60# SACKS 2½"X16", 2"X8"	LT. SIDE OF SPILLWAY 3" HOLES, 1.47#/CU. YD.
	800' 200GR.	1	15	ENSIGN BICKFORD PRIMACORD	3" HOLES, SPILLWAY
.FT.	1650' 200GR.	1	-	PRIMACORD	3" HOLES, SPILLWAY
FT.	950' 200GR.	1	-	PRIMACORD	3" HOLES, SPILLWAY
YDS.	425# MAYNES 55# UNIGEL	27	-	50# SACKS MAYNES MIX #1, 2"X8" HERCULES UNIGEL	3" HOLES, SPILLWAY 0.91#/YD.
YDS.	625# MAYNES 55# UNIGEL	40	0-9	50# SACKS MAYNES MIX #1, 2"X8"& 2-3/4"X16" UNIGEL (HERCULES)	3" HOLES, SPILLWAY 0.70#/YD.
YDS.	950# MAYNES 72# UNIGEL	50	0-9	50# SACKS MAYNES MIX #1, 2"X8" & 2¼"X16" IRECO UNIGEL	3" HOLES, SPILLWAY, 0.94#/YD.
YDS.	850# MAYNES 40# UNIGEL	42	0-9	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	3" HOLES, SPILLWAY, 0.84#/YD.
YDS.	750# MAYNES 86# UNIGEL	42	0-9	50# SACKS MAYNES MIX #1, 2½"X16" AND 2"X8" IRECO UNIGEL	3" HOLES, SPILLWAY, 0.90#/YD.
YDS.	1025 # MAYNES 85# UNIGEL	48	0-9	50# SACKS MAYNES MIX #1, 2½"X16" $ 2"X8" IRECO UNIGEL	3" HOLES, SPILLWAY 0.98#/YD.
YDS.	1250# MAYNES 323# UNIGEL	55	-	50# SACKS MAYNES MIX #1, 2½"X16" $ 2"X8" IRECO UNIGEL	3" HOLES, SPILLWAY 1.1#/YD.
YDS.	1150# MAYNES 163# UNIGEL	57	0-10	50# SACKS MAYNES MIX #1, 2"X8" & 2½"X16" IRECO UNIGEL	3" HOLES, SPILLWAY 1.0#/YD.
YDS.	450# MAYNES 46# UNIGEL	21	0-9	50# SACKS MAYNES MIX #1, 2"X8" & 2½"X16" IRECO UNIGEL	3" HOLES, SPILLWAY 1#/YD.
YDS.	450# MAYNES 25# UNIGEL	20	0-8	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	3" HOLES, SPILLWAY 1#/YD.
YDS	1650# MAYNES 9# UNIMITE 25# UNIGEL	25	0-6	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL, 2¼"X16" IRECO UNIMITE	3½" HOLES, SPILLWAY 0.68#/YD.
YDS.	1400# MAYNES 105# UNIGEL	37	0-12	50# SACKS MAYNES MIX #1, 2"X8" & 2½"X16" IRECO UNIGEL	3½" HOLES, SPILLWAY 0.68#/YD.
YDS.	2000# 100, 47# 62, 35# UNIGEL	30	0-10	50# SACKS IREMEX 100, 2¼"X16" IREMITE 62, 2"X8" UNIGEL	3½" HOLES, SPILLWAY 0.92#/YD.
YDS.	2050# 100, 33# UNIGEL 19# 62	29	0-8	50# SACKS IRECO 100, 2"X8" IRECO UNIGEL 2¼"X16" IREMITE 62	3½" HOLES, SPILLWAY 0.75#/YD.
YDS.	2000# 100, 50# 62, 33# UNIGEL	29	0-8	50# SACKS IREMEX 100, 2¼"X16" IREMITE 62, 2"X8" IRECO UNIGEL	3½" HOLES, 0.75#/YD. SPILLWAY
YDS.	1200# 100, 50# 62, 62# UNIGEL	46	0-10	50# SACKS IRECO IREMITE 100, 2"X8" IRECO UNIGEL, 2¼"X16" IRECO IREMITE 62	3" HOLES, SPILLWAY 1.2#/YD.
YDS.	800# 100, 80# 62, 72.5# UNIGEL	45	0-11	50# SACKS IREM'X 100, 2¼"X16" IREMITE 62, 2½"X16" IRECO UNIGEL	SPILLWAY
YDS.	700# MAYNES 162# 62, 75# UNIMITE 50# UNIGEL	42	0-10	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL, 2½"X16" IRECO UNIMITE, 2¼"X16" IRECO IREMITE 62	3" HOLES, SPILLWAY 1#/YD.
YDS.	850# MAYNES 80# 162, 72# UNIGEL	42	0-10	50# SACKS MAYNES MIX #1, 2¼"X16" IRECO IREMITE 162, 2"X8" AND 2½"X16" IRECO UNIGEL	3" HOLES, SPILLWAY 1.2#/YD.
YDS.	600# MAYNES 583# UNIGEL 38# 62	50	0-11	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL, 2½"X16" UNIGEL 2¼"X16" IREMITE 62	3" HOLES, SPILLWAY 1.5#/YD.
YDS.	1050# MAYNES 97# UNIGEL 36# 62	57	0-11	50# SACKS MAYNES MIX #1, 2½"X16" AND 2"X8" IRECO UNIGEL, 2¼"X16" IREMITE 62	3" HOLES, SPILLWAY 1.0#/YD.
YDS.	1100# MAYNES 165# UNIGEL 23# 62	53	0-13	50# SACKS MAYNES MIX #1, 2½"X16" & 2"X8" IRECO UNIGEL, 2¼"X16" IREMITE 62	3" HOLES, SPILLWAY 1.29#/YD.
YDS.	1200# MAYNES 110# UNIGEL	54	0-14	50# SACKS MAYNES MIX #1, 2½"X16" AND 2"X8" IRECO UNIGEL	3" HOLES, SPILLWAY 1.0#/YD.
YDS.	1000# MAYNES 150# UNIGEL 30# 62	52	0-12	50# SACKS MAYNES MIX #1, 2"X8" & 2½"X16" UNIGEL, 2¼"X16" IREMITE 62	3" HOLES, SPILLWAY 1.5#/YD.
YDS.	1075# MAYNES 90# UNIGEL 34# 62	53	0-12	50# SACKS MAYNES MIX #1, 2½"X16" AND 2"X8" UNIGEL, 2¼"X16" IRECO IREMITE 62	3" HOLES, SPILLWAY 1.3#/YD.
DS.	800# MAYNES 50# UNIGEL	35	0-10	50# SACKS MAYNES MIX #1, 2"X8" & 2½"X16" IRECO UNIGEL	3" HOLES, SPILLWAY 1.5#/YD.
YDS.	600# MAYNES 90# UNIGEL	37	0-8	50# SACKS MAYNES MIX #1, 2"X8" & 2½"X16" IRECO UNIGEL	3" HOLES, HAUL ROAD, 1.2#/YD.
YDS.	575# MAYNES 35# UNIGEL	30	0-8	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	3" HOLES, HAUL ROAD, 0.90#/YD.
YDS.	825# MAYNES 45# UNIGEL	39	0-10	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	3" HOLES, HAUL ROAD, 1.1#/YD.
YDS.	775# MAYNES 53# UNIGEL	48	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	3" HOLES, HAUL ROAD 1.2#/YD.
YDS.	700# MAYNES 66# UNIGEL	70	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	3" HOLES, HAUL ROAD, 0.95#/YD.
YDS.	600# MAYNES 116# UNIGEL	100	-	50# SACKS MAYNES MIX #1, 2"X8" & 2¼"X16" IRECO UNIGEL	3" HOLES, HAUL ROAD, 1.26#/YD.
YDS.	1450# MAYNES 105# UNIGEL	71	0-14	50# SACKS MAYNES MIX #1, 2"X8" & 2½"X16" IRECO UNIGEL	3" HOLES, SPILLWAY 1.05#/YD.
YDS.	1425# MAYNES 98# UNIGEL	65	-	50# SACKS MAYNES MIX #1, 2½"X16" & 2"X8" IRECO UNIGEL	3" HOLES, SPILLWAY 1.1#/YD.
YDS.	1350# MAYNES 85# UNIGEL	67	0-13	50# SACKS MAYNES MIX #1, 2"X8" & 2½"X16" IRECO UNIGEL	3" HOLES, SPILLWAY 1.5#/YD.
YDS.	1850# MAYNES 125# UNIGEL	94	0-15	50# SACKS 2"X8", 2½"X16"	3" HOLES, SPILLWAY 1.2#/CU. YD.
YDS.	1200# E.P. 102, 150# MAYNES MIX 30# IRECO IREMIT 62, 38# UNIGEL	35	0-14	40# SACKS, 50# SACKS, 2¼"X16", 2"X8"	3½" HOLES, SPILLWAY 1.0#/YD.
YDS.	800# MAYNES, 30# HER. E.P. 162, 14# IRE. UNIGEL	12	0-8	50# SACKS, 40# SACKS, 2"X8"	3½" HOLES, SPILLWAY 0.68#/CU. YD.
DS.	1150# MAYNES 67# UNIGEL	61	0-12	50# SACKS 2"X8"	3" HOLES, SPILLWAY 1.36#/CU. YDS.
YDS.	1150# MAYNES 3# UNIGEL 70# UNIGEL	60	0-12	50# SACKS 2½"X16", 2"X8"	3" HOLES, SPILLWAY 1.2#/CU. YD.
DS.	825# MAY. 50# IRECO UNIGEL 4# IRECO 62, 10# UNIGEL	45	0-9	50# SACKS 2"X8", 2¼"X16", 2½"X16"	3" HOLES, SPILLWAY 1.1#/CU. YD.
YDS.	1950# MAYNES 33# UNIGEL 10# IRECO 62	30	0-10	50# SACKS 2"X8", 2¼"X16"	3½" HOLES, SPILLWAY 0.82#/CU. YD.
YDS.	20# H.P.-162, 1625# MAYNES 35# UNIGEL 60# UNIGEL	29	0-8	40# SACKS 50# SACKS 2"X8", 2¼"X16"	3½" HOLES, SPILLWAY 0.67#/CU. YD.
DS.	1000# MAYNES 61.5 UNIGEL	49	0-13	50# SACKS, 2"X8", 2½"X16"	3" HOLES, SPILLWAY 1.17#/CU. YD.
DS.	1050# MAYNES 50# UNIGEL 60# UNIGEL	55	0-15	50# SACKS 2½"X16", 2"X8"	3" HOLES, SPILLWAY 1.2#/CU. YD.
DS.	650# MAYNES 35# UNIGEL 13# UNIGEL	32	0-14	50# SACKS 2"X8", 2½"X16"	3" HOLES, SPILLWAY 1.1#/CU. YD.
DS.	1900# MAYNES 33# UNIGEL 38# UNIMITE	34	0-12	50# SACKS 2"X8", 2½"X16"	3½" HOLES, SPILLWAY 0.70#/CU. YD.
YDS.	1125# MAYNES 40# H.P. 162, 35# UNIGEL 24# UNIMITE	18	0-8	50# SACKS 40# SACKS 2"X8", 2¼"X16"	3½" HOLES, SPILLWAY 0.78#/CU. YD.
YDS.	1150# MAYNES 100# UNIGEL 77# UNIGEL	80	0-8	50# SACKS 2½"X16", 2"X8"	3" HOLES, SPILLWAY 1.11#/CU. YD.
YDS.	1750# MAYNES 29# UNIGEL 10# UNIGEL 30# H.P. 162	26	0-10	50# BAGS 2"X8", 2½"X16", 2¼"X16"	3½" HOLES, SPILLWAY 0.7#/CU. YD.
YDS.	1325# MAYNES 100# UNIGEL 32# UNIGEL 28# UNIGEL	25	0-14	50# BAGS, 2¼"X16", 2½"X16", 2"X8"	3½" HOLES, SPILLWAY 0.92#/CU. YD.
YDS.	1475# MAYNES 35# UNIGEL 115# UNIGEL	106	0-12	50# SACKS 2½"X16", 2"X8"	3" HOLES, SPILLWAY 1.0#/CU. YD.

Revisions

Symbol	Descriptions	Date	Approved

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

BLASTING SCHEDULE

Designed by:
Drawn by: V.A.B.
Checked by:
Submitted by:

Scale: AS SHOWN | Sheet number: 88 | Plot Scale: S=.0833
Date: JUNE 1990 | Design File: (100,63)BS3.DGN
Dwg. No.: | File No.: RBL-2-1308

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BLUE SPRINGS DAM BLASTING

SHOT NO.	DATE	GEOLOGIC LOCATION	ELEV.	LOCATION STATION	LOCATION RANGE	PURPOSE	NO. OF HOLES	DEPTH (FT.)	SPACING (FT.)	BURDEN (FT.)	STEM (FT.)	SHOT VOL.	EXPLOSIVES
103	7/24/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	843	17+60-18+20	61 RT. TO 51' LT OF ℄	PRODUCTION	98	10'	8'	5'	4'	1460 CU. YDS.	1325# MAYNES 50# UNIGEL
104	7/28/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	17+25-17+55	32-130' LT. OF ℄	PRODUCTION	90	10'	8'	5'	4'	1075 CU. YDS.	1225# MAYNES 16# UNIGEL
105	7/28/87	BETHANY FALLS		17+50-18+00	207-159' LT. OF ℄	PRODUCTION	32	21'	12'	10'	4'	3130 CU. YDS.	1950# MAYNES IREMITE #62
106	7/30/87	BETHANY FALLS		17+75-18+25	210-110' LT. OF ℄	PRODUCTION	38	21'	12'	10'	4'	3080 CU. YDS.	2150# MAYNES 40# IRECO #6
107	8/1/87	BETHANY FALLS		18+20-18+50	210' LT TO 135 LT.	PRODUCTION	32	21'	12'	10'	4'	2415 CU. YDS.	1800# MAYNES 4# IRECO #62
20	7/10/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	843	16+94-18+00	184.4' RT. ℄	PRE-SPLIT	38	14'	2'	-		1038 SQ. FT.	1300' 200GR. 80' E. CORD.
21	7/11/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	843	18+00-18+50	184.4' RT. ℄	PRE-SPLIT	19	14'	2'	-		532 SQ. FT.	580' 200GR. 45 E. CORD.
22	8/6/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	832	18+50-19+75	184.0' RT. ℄	PRE-SPLIT	50	13.5'	2'	-		1377 SQ. FT.	1500' 200GR. 125' E. CORD.
23	8/31/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	748	17+00-17+70	197.0' LT. ℄	PRE-SPLIT	48	14'	2'	-		1288 SQ. FT.	1600' 200GR.
24	10/19/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	?	192.0' RT. ℄	PRE-SPLIT	50	14'	2'	-		700 SQ. FT.	1400' SEISMIC 50' 25GR.
25	1/28/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	847	17+30-18+70	197.0' LT. ℄	PRE-SPLIT	97	12'	-	-		2328 SQ. FT.	2400' SEISMIC 200GR., 225 E.
26	4/6/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	843	20+29-19+64	186' LT. ℄ 190 RT ℄	PRE-SPLIT	44	15'	2'	-		1232 SQ. FT.	1250' SEISMIC 200GR. 100' E.
27	4/7/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	844	18+75-19+65	190' LT ℄ 196 LT. ℄	PRE-SPLIT	60	14'	2'	-		1680 SQ. FT.	1300' SEISMIC 200GR. 130 E.
108	8/10/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	850	18+50-18+00	183-100' RT. OF ℄	PRODUCTION	67	11	8'	5'	4'	1015	1200# MAYNES 75# UNIGEL
109	8/12/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	18+00-18+50	100 RT. TO ℄	PRODUCTION	82	10.5'	8'	5'	4'	1307	1200# MAYNES 91# UNIGEL
110	8/17/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	847	18+00-18+50	℄ TO 125' LT.	PRODUCTION	100	10.5'	8'	5'	4'	1643	1600# MAYNES 50# UNIGEL
111	8/20/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	843	18+70-19+00	184'-52' RT. OF ℄	PRODUCTION	55	12'	8'	5'	4'	1466	950# MAYNES 100# UNIGEL 6
112	8/21/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	870	18+50-19+00	135'-95' LT. OF ℄	PRODUCTION	27	21'	12'	10'	5'	2430	40# E.P. 162, 1350# MAYNES, 32# IREC
113	8/24/87	BETHANY FALLS	870	20+50-20+00	195-62' RT. OF ℄	PRODUCTION	49	21'	12'	10'	5'	4043	2550# MAYNES 80# IRECO 62, 80# UN
114	8/29/87	BETHANY FALLS	870	20+50-20+00	195'-71' RT. OF ℄	PRODUCTION	38	21'	12'	10'	5'	2900	2150# MAYNES 45# UNIGEL 1
115	9/2/87	BETHANY FALLS	870	21+00	195'-71' RT. OF ℄	PRODUCTION	37	21'	12'	10'	5'	2900	2000# MAYNES, 30# IRECO 62, 16# UN
116	9/2/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	848	17+00-17+90	160-110' LT. OF ℄	PRODUCTION	93	11'	8'	5'		1630	1550# MAYNES 105# UNIGEL
117	9/9/87	BETHANY FALLS	870		195-85 RT. OF ℄	PRODUCTION	38	21'	12'	10'	4'	3010	2300# MAYNES 70# IRECO 62, 6# UNI
118	9/12/87	BETHANY FALLS	869	22+50-21+50	195'-100' RT. OF ℄	PRODUCTION	75	21'	12'	8'		6022	427.5# MAYNES 85# UNIGEL
118A	9/14/87	BETHANY FALLS	869	22+00-22+58	110-50' RT. OF ℄	PRODUCTION	5	20'	12'	10'		1170	250# MAYNES 6# UNIGEL
119	9/17/87	BETHANY FALLS	870	19+50-20+50	80'-50' RT. OF ℄	PRODUCTION	32	21'	12'	10'		3080	1650# MAYNES 100# IRECO 6
120	9/21/87	BETHANY FALLS	870	20+50-21+50	45-60' RT. OF ℄	PRODUCTION	33	21'	12'	10'		2940	2100# MAYNES 24# IRECO 62,
121	9/23/87	BETHANY FALLS	870	19+50-20+50	℄ TO 30' RT.	PRODUCTION	38	21	12'	10'		2940	2400# MAYNES 43# UNIGEL 4
121A	9/23/87	BETHANY FALLS	870	22+00	30'-80' RT. OF ℄	PRODUCTION	10	21'	10'	10'		1170	575# MAYNES 11# UNIGEL
122	9/25/87	BETHANY FALLS	870	20+50-21+50	30'-60' RT. OF ℄	PRODUCTION	27	21'	12'	10'		2520	1650# MAYNES 30# UNIGEL
123	10/1/87	BETHANY FALLS	870	19+00 21+00	20' RT. TO 30' LT. OF ℄	PRODUCTION	49	21'	12'	10'	4'	3850	2900# MAYNES 55# UNIGEL
124	10/2/87	BETHANY FALLS	870	18+25-19+00	40'-125' LT. OF ℄	PRODUCTION	22	21'	12'	10'		2310	1300# MAYNES 25# UNIGEL
125	10/5/87	BETHANY FALLS	870	20+50-21+00	15' RT. TO 40' LT. OF ℄	PRODUCTION	13	21'	10'	8'	4'	1540	775# MAYNES 15# UNIGEL
126	10/6/87	BETHANY FALLS	870	20+00-20+50	℄ ±	PRODUCTION	13	21'	10'	10'	4'	1360	825# MAYNES 15# UNIGEL
127	10/7/87	BETHANY FALLS	870	21+00-20+30	25' LT. TO 30' RT. OF ℄	PRODUCTION	13	21'	10'	10'		1540	775# MAYNES 15# UNIGEL
128	10/9/87	BETHANY FALLS	870	19+50-20+50	40' LT. TO ℄	PRODUCTION	24	21'	10'	10'		2300	1800# MAYNES 40# UNIGEL
129	10/13/87	BETHANY FALLS	870	19+00-20+50	25' LT. TO 10' RT. OF ℄	PRODUCTION	46	21'	10'	10'		3800	2700# MAYNES 50# UNIGEL
130	10/15/87	BETHANY FALLS	870	18+50-18+80	70'-154' LT. OF ℄	PRODUCTION	22	21	11'	10'	4'	2160	1350# MAYNES 25# UNIGEL
131	11/2/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	18+30-19+30	83 178' RT. OF ℄	PRODUCTION	87	12'	7'	5'		1267	1700# MAYNES 350# IRECO 1
132	11/5/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	19+50	80'-170 RT. OF ℄	PRODUCTION	87	12'	7'	5'		1270	1950# MAYNES 262# IRECO 62
133	11/6/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	19+50-19+70	75'-170' RT. OF ℄	PRODUCTION	71	12'	7'	5'		1067	1650# MAYNES 62# IRECO 62,
134	11/9/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	19+50-20+00	75'-170 RT. OF ℄	PRODUCTION	91	12'	7'	5'		1270	2075# MAYNES 75# IRECO 62,
135	11/11/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	19+80-20+20	75 -170' RT. OF ℄	PRODUCTION	88	12'	7	5		1270	2150# MAYNES 48# IRECO 62,
136	11/13/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	20+20-20+60	75 170' RT. OF ℄	PRODUCTION	88	12'	7'	5'		1270	2150# MAYNES 48# IRECO 62,
137	11/13/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	20+60-21+00	75 -170' RT. OF ℄	PRODUCTION	90	21'	7'	5'		1267	2150# MAYNES 52# IRECO 62,
138	11/16/87	BETHANY FALLS	870	19+00-20+75	110'-180 LT. OF ℄	PRODUCTION	37	21	12'	10'	4'	3380	2100# MAYNES 125# IRECO 62
139	11/18/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	20+56-21+00	75' 170' RT. OF ℄	PRODUCTION	89	21'	7'	5'	4½'	1270	2075# MAYNES 300# IRECO 62,
140	11/19/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	21+00-21+45	75 170' RT. OF ℄	PRODUCTION	90	12'	7	5		1270	2300# MAYNES 50# IRECO 62,
141	11/21/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	848	22+00-22+75	120'-170' RT. OF ℄	PRODUCTION	78	11'	7'	5'		1000	1650# MAYNES 85# UNIGEL
142	11/21/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	18+50-19+50	55-75' RT. OF ℄	PRODUCTION	82	13'	7'	5		1260	2100# MAYNES 90# UNIGEL
143	11/23/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	21+50-22+00	75'-170' RT. OF ℄	PRODUCTION	90	12'	7'	5'		1270	2250# MAYNES 100# IREMITE
144	11/24/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	22+00	75' RT. ℄ 170' RT. ℄	PRODUCTION	60	12'	7'	5'		844 CU. YDS.	1200# MAYNES 70# UNIGEL
145	12/1/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	21+50-22+25	75 RT. ℄ 170 RT. ℄	PRODUCTION	116	11	7	5		1660 CU. YDS.	2550# MAYNES 50# IREMITE 6
146	12/2/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	19+50-21+50	55' RT. ℄ 75' RT. ℄	PRODUCTION	134	11.5'	7'	5'		2087 CU. YDS.	3100# MAYNES 250# IREMITE
147	12/3/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	?	35 RT. ℄ 55' RT. ℄	PRODUCTION	80	12'	7'	5		1244 CU. YDS.	1850# MAYNES 10# IREMITE 6
148	12/4/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	19+25-21+00	35' RT. ℄ 55' RT. ℄	PRODUCTION	84	12'	7'	5'		1307 CU. YDS.	2100# MAYNES 15# IREMITE 6
149	12/5/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	21+00 21+80	35' RT. ℄ 55 RT. ℄	PRODUCTION	84	12'	7'	5'		1307 CU. YDS.	2100# MAYNES 15# IREMITE 62
150	12/7/87	BETHANY FALLS	870	18+70-19+50	65' LT. ℄ 210' LT. ℄	PRODUCTION	49	21'	12'	10'		4410 CU. YDS.	3100# MAYNES 55# UNIGEL
151	12/8/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	18+25-19+75	15 RT. ℄-35' RT. ℄	PRODUCTION	98	12'	7'	5'		1630 CU. YDS.	2200# MAYNES 110# UNIGEL
152	12/10/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	19+75-21+50	5 RT. ℄ 15 RT. ℄	PRODUCTION	108	11.5'	7'	5'		1750 CU. YDS.	2500# MAYNES 120# UNIGEL
153	12/11/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	18+25-19+50	5 LT. ℄ 15 RT. ℄	PRODUCTION	92	12'	7'	5'		1495 CU. YDS.	2050# MAYNES 50# IREMITE 62
154	12/12/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	19+50-21+25	5 LT. ℄ 15 RT. ℄	PRODUCTION	114	12'	7'	5'		1840 CU. YDS.	2500# MAYNES 125# UNIGEL
155	12/13/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	848	19+50-21+00	5 LT. ℄ 15' LT. ℄	PRODUCTION	97	11	7'	5'		1565 CU. YDS.	2100# MAYNES 100# IREMITE
156	1/4/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	847	18+00-19+50	15' LT. ℄ 35 LT. ℄	PRODUCTION	100	10'	7'	5'		1244 CU. YDS.	2100# MAYNES #1, 100# IREMI
157	1/6/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	847	19+60-20+80	35 LT. ℄ 55 LT. ℄	PRODUCTION	72	10'	7'	5		933 CU. YDS.	1500# MAYNES 100# UNIGEL
158	1/8/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	847	18+? 19+60	35' LT ℄ 55 LT. ℄	PRODUCTION	54	10'	7'	5'		726 CU. YDS.	1100# MAYNES 35# IREMITE 62
159	1/11/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	847	18+10	35 LT. ℄ 55' LT. ℄	PRODUCTION	48	10'	7'	5		677 CU. YDS.	1050# MAYNES 55# UNIGEL
160	1/12/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	847	19+70-20+80	55 LT. ℄ 75 LT. ℄	PRODUCTION	64	10'	7'	5		830 CU. YDS.	1250# MAYNES 70# UNIGEL 23
161	1/13/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	847	19+70-20+70	55 LT. ℄ 105 LT. ℄	PRODUCTION	93	10'	7'	5		1065 CU. YDS.	1800# MAYNES #1, 50# IREMIT
162	1/15/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	848	17+80-12+80	55 LT. ℄ 75 LT. ℄	PRODUCTION	117	11.5'	7'	5'		1670 CU. YDS.	2550# MAYNES #1, 130# UNIGE
163	1/16/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	848	17+80 19+80	75 LT. ℄ 95 LT. ℄	PRODUCTION	116	11.5'	7'	5'		1610 CU. YDS.	2500# MAYNES #1, 128# UNIGE

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VALUE ENGINEERING PAYS

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D

JE SPRINGS DAM BLASTING REPORT

SHOT VOL.	EXPLOSIVES (LBS.)	NO. OF CAPS	DELAYS IN MILI/SEC	CARTRIDGE STRENGTH	REMARKS
1460 CU. YDS.	1325# MAYNES 50# UNIGEL 109# UNIGEL	98	0-10	50# SACKS 2 1/2"X16", 2"X8"	3" HOLES, SPILLWAY 1.0#/CU. YD.
1075 CU. YDS.	1225# MAYNES 16# UNIGEL 100# UNIGEL	90	0-10	50# SACKS 2 1/2"X16", 2"X8"	3" HOLES, SPILLWAY 1.2#/CU. YD.
3130 CU. YDS.	1950# MAYNES IREMITE #62 UNIGEL	32	0-10	50# SACKS 2 1/4"X16", 2"X8"	3" HOLES, SPILLWAY 0.66#/CU. YD.
3080 CU. YDS.	2150# MAYNES 40# IRECO #62, 30# UNIGEL	38	0-20	50# SACKS 2 1/4"X16", 2"X8"	3 1/2" HOLES, SPILLWAY 0.72#/CU. YD.
2415 CU. YDS.	1800# MAYNES 4# IRECO #62, 36# UNIGEL	32	0-8	50# SACKS 2 1/4"X16", 2"X8"	3 1/2" HOLES, SPILLWAY 0.72#/CU. YD.
038 SQ. FT.	1300' 200GR, 80 E. CORD.	1	1	PRIMACORD	3" HOLES 1/4:1 ANGLE
532 SQ. FT.	580' 200GR, 45' E. CORD.	1	1	PRIMACORD	3" HOLES 1/4:1 ANGLE
1377 SQ. FT.	1500' 200GR 125' E. CORD.	1	0	PRIMACORD	3" HOLES 1/4:1 ANGLE
1288 SQ. FT.	1600' 200GR.	1	0	PRIMACORD	3" HOLE 1/4:1 ANGLE
700 SQ. FT.	1400' SEISMIC 50' 25GR.	1		PRIMACORD	3" HOLE 1/4:1 ANGLE
2328 SQ. FT.	2400' SEISMIC 200GR., 225' E. CORD.	2	10.7	PRIMACORD	3 1/2" HOLE 1/4:1 ANGLE
1232 SQ. FT.	1250' SEISMIC 200GR. 100' E. CORD.	1	0	PRIMACORD	3" HOLE 1/4:1 ANGLE
1680 SQ. FT.	1300' SEISMIC 200GR. 130' E. CORD.	1	0	PRIMACORD	3" HOLE 1/4:1 ANGLE
1015	1200# MAYNES 75# UNIGEL	67	0-9	50# SACKS 2"X8"	3" HOLES, SPILLWAY 1.03#/CU. YD.
1307	1200# MAYNES 91# UNIGEL	82	0-10	50# SACKS 2"X8"	3" HOLES, SPILLWAY 0.99#/CU. YD.
1643	1600# MAYNES 50# UNIGEL 110# UNIGEL	100	0-10	50# SACKS 2 1/2"X16", 2"X8"	3" HOLES, SPILLWAY 1.07#/CU. YD.
1466	950# MAYNES 100# UNIGEL 65# UNIGEL	55	0-8	50# SACKS 2 1/2"X16", 2"X8"	3" HOLES, SPILLWAY 0.8#/CU. YD.
2430	40# E.P. 162, 1350# MAYNES, 32# IRECO 62, 26# UNIGEL, 30# UNIGEL	27	0-8	50# SACKS 2 1/4"X16", 2 1/2"X16", 2"X8"	3 1/2" HOLES, SPILLWAY 0.60#/CU. YD.
4043	2550# MAYNES 80# IRECO 62, 80# UNIGEL 55# UNIGEL	49	0-10	50# SACKS 2 1/4"X16", 2 1/2"X16", 2"X8"	3 1/2" HOLES, SPILLWAY 0.68#/CU. YD.
2900	2150# MAYNES 45# UNIGEL 10# IRECO 62	83	0-10	50# SACKS 2"X8", 2 1/4"X16"	3 1/2" HOLES, SPILLWAY 0.75#/CU. YD.
2900	2000# MAYNES, 30# IRECO 62, 16# UNIGEL, 45# UNIGEL	37	0-12	50# SACKS 2 1/4"X16", 2 1/2"X16", 2"X8	3 1/2" HOLES, SPILLWAY 0.71#/CU. YD.
1630	1550# MAYNES 105# UNIGEL 6# UNIGEL	93	0-11	50# SACKS 2"X8", 2 1/2"X16"	3" HOLES, SPILLWAY 1.02#/CU. YD.
3010	2300# MAYNES 70# IRECO 62, 6# UNIGEL 45# UNIGEL	38	0-12	50# SACKS 2 1/4"X16", 2 1/2"X16", 2"X8"	3 1/2" HOLES, SPILLWAY 1.02#/CU. YD.
6022	427.5# MAYNES 85# UNIGEL	75	0-8	50# SACKS	3 1/2" HOLES, SPILLWAY 0.72#/CU. YD.
1170	250# MAYNES 6# UNIGEL	5	0-2	50# SACKS 2"X8"	3 1/2" HOLES, SPILLWAY 0.25#/CU. YD.
3080	1850# MAYNES 100# IRECO 62, 40# UNIGEL	32	0-8	50# SACKS 2 1/4"X16", 2"X8"	3 1/2" HOLES, SPILLWAY 0.65#/CU. YDS.
2940	2100# MAYNES 24# IRECO 62, 40# UNIGEL	33	0-7	50# SACKS 2 1/4"X16", 2"X8"	3 1/2" HOLES, SPILLWAY 0.73#/CU. YD.
2940	2400# MAYNES 43# UNIGEL 4# IRECO 62	39	0-9	50# SACKS 2"X8", 2 1/4"X16"	3 1/2" HOLES, SPILLWAY 0.8#/CU. YD.
1170	575# MAYNES 11# UNIGEL	10	0-5	50# SACKS 2"X8"	3 1/2" HOLES, SPILLWAY 0.5#/CU. YD.
2520	1650# MAYNES 30# UNIGEL	27	0-5	50# SACKS 2"X8"	3 1/2" HOLES, SPILLWAY 0.67#/CU. YD.
3850	2900# MAYNES 55# UNIGEL	51	0-5	50# SACKS 2"X8"	3 1/2" HOLES, SPILLWAY 0.76#/CU. YD.
2310	1300# MAYNES 25# UNIGEL	22	1-5	50# SACKS 2"X8"	3 1/2" HOLES, SPILLWAY 0.6#/CU. YD.
1540	775# MAYNES 15# UNIGEL	14	0-6	50# SACKS 2"X8"	3 1/2" HOLES, SPILLWAY 0.51#/CU. YD.
1360	825# MAYNES 15# UNIGEL	13	0-5	50# SACKS 2"X8"	3 1/2" HOLES, SPILLWAY 0.61#/CU. YD.
1540	775# MAYNES 15# UNIGEL	13	0-7	50# SACKS 2"X8"	3 1/2" HOLES, SPILLWAY 0.51#/CU. YD.
2500	1800# MAYNES 40# UNIGEL	24	0-5	50# SACKS 2"X8"	3 1/2" HOLES, SPILLWAY 0.74#/CU. YD.
3800	2700# MAYNES 50# UNIGEL	46	0-5	50# SACKS 2"X8"	3 1/2" HOLES, SPILLWAY 0.72#/CU. YD.
2160	1350# MAYNES 25# UNIGEL	22	1-7	50# SACKS 2"X8"	3 1/2" HOLES, SPILLWAY 0.63#/CU. YD.
1267	1700# MAYNES 350# IRECO 162, 95# UNIGEL	88	0-10	50# SACKS 2 1/4"X16", 2"X8"	3 1/2" HOLES, SPILLWAY 1.70#/CU. YD.
1270	1950# MAYNES 262# IRECO 62, 100# UNIGEL	87	0-10	50# SACKS 2 1/4"X16", 2"X8"	3 1/2" HOLES, SPILLWAY 1.8#/CU. YD.
1067	1650# MAYNES 62# IRECO 62, 90# UNIGEL	71	0-12	50# SACKS 2 1/4"X16", 2"X8"	3 1/2" HOLES, SPILLWAY 1.70#/CU. YD.
1270	2075# MAYNES 75# IRECO 62, 100# UNIGEL	91	0-12	50# SACKS 2 1/4"X16", 2"X8"	3 1/2" HOLES, SPILLWAY 1.8#/CU. YD.
1270	2150# MAYNES 48# IRECO 62, 47# UNIGEL	88	0-12	50# SACKS 2 1/4"X16", 2"X8"	3 1/2" HOLES, SPILLWAY 1.8#/CU. YD.
1270	2150# MAYNES 48# IRECO 62, 97# UNIGEL	88	0-12	50# SACKS 2 1/4"X16", 2"X8"	3 1/2" HOLES, SPILLWAY 1.8#/CU. YD.
1267	2150# MAYNES 52# IRECO 62, 100# UNIGEL	90	0-15	50# SACKS 2 1/4"X16", 2"X8"	3 1/2" HOLES, SPILLWAY 1.8#/CU. YD.
3380	2100# MAYNES 125# IRECO 62, 41# UNIGEL	37	0-7	50# SACKS 2 1/4"X16", 2"X8"	3 1/2" HOLES, SPILLWAY 0.67#/CU. YD.
1270	2075# MAYNES 300# IRECO 62, 100# UNIGEL	89	0-15	50# SACKS 2 1/4"X16", 2"X8"	3 1/2" HOLES, SPILLWAY 1.8#/CU. YD.
1270	2300# MAYNES 50# IRECO 62, 100# UNIGEL	90	0-14	50# SACKS 2 1/4"X16", 2"X8"	3 1/2" HOLES, SPILLWAY 1.7#/CU. YD.
1000	1650# MAYNES 85# UNIGEL	78		50# SACKS 2"X8"	3 1/2" HOLES, SPILLWAY 1.7#/CU. YD.
1260	2100# MAYNES 90# UNIGEL	82	0-12	50# SACKS 2"X8"	3 1/2" HOLES, SPILLWAY 1.7#/CU. YD.
1270	2250# MAYNES 100# IREMITE 62, 100# UNIGEL	90	0-12	50# SACKS 2 1/4"X16", 2"X8"	3 1/2" HOLES, SPILLWAY 1.9#/CU. YD.
844 CU. YDS.	1200# MAYNES 70# UNIGEL	60	1-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.5#/YD. 3 1/2" VERTICAL HOLES SPILLWAY
660 CU. YDS.	2550# MAYNES 50# IREMITE 62, 125# UNIGEL	116	0-9	50# SACKS MAYNES MIX #1, 2 1/4"X16" IRECO IREMITE 62, 2"X8" IRECO UNIGEL	1.6# YD. 3 1/2" VERTICAL HOLES SPILLWAY
[illegible]087 CU. YDS.	3100# MAYNES 250# IREMITE 62, 145# UNIGEL	134	0-15	50# SACKS MAYNES MIX #1, 2 1/4"X16" IRECO IREMITE 62, 2"X8" IRECO UNIGEL	1.7#/YD. 3 1/2" VERTICAL HOLES SPILLWAY
[illegible]244 CU. YDS.	1850# MAYNES 10# IREMITE 62, 90# UNIGEL	80	0-15	50# SACKS MAYNES MIX #1, 2 1/4"X16" IRECO IREMITE 62, 2"X8" IRECO UNIGEL	1.6#/YD. 3 1/2" VERTICAL HOLES SPILLWAY
[illegible]307 CU. YDS.	2100# MAYNES 15# IREMITE 62, 90# UNIGEL	84	0-15	50# SACKS MAYNES MIX #1, 2 1/4"X16" IRECO IREMITE 62, 2"X8" IRECO UNIGEL	1.7#/YD. 3 1/2" VERTICAL HOLES SPILLWAY
[illegible]307 CU. YDS.	2100# MAYNES 15# IREMITE 62, 90# UNIGEL	84	1-12	50# SACKS MAYNES MIX #1, 2 1/4"X16" IRECO IREMITE 62, 2"X8" IRECO UNIGEL	1.7#/YD. 3 1/2" VERTICAL HOLES SPILLWAY
[illegible]4 0 CU. YDS.	3100# MAYNES 55# UNIGEL	51	0-10	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	0.7#/YD. 3 1/2" VERTICAL HOLES SPILLWAY
630 CU. YDS.	2200# MAYNES 110# UNIGEL	98	0-15	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.4#/YD. 3 1/2" VERTICAL HOLES SPILLWAY
[illegible]730 CU. YDS.	2500# MAYNES 120# UNIGEL	108	0-15	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.5#/YD. 3 1/2" VERTICAL HOLES SPILLWAY
495 CU. YDS.	2050# MAYNES 50# IREMITE 62, 101# UNIGEL	92	0-15	50# SACKS MAYNES MIX #1, 2 1/4"X16" IRECO IREMITE 62, 2"X8" IRECO UNIGEL	1.5#/YD. 3 1/2" VERTICAL HOLES SPILLWAY
840 CU. YDS.	2500# MAYNES 125# UNIGEL	114	0-14	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.4#/YD. 3 1/2" VERTICAL HOLES SPILLWAY
565 CU. YDS.	2100# MAYNES 100# IREMITE 62, 110# UNIGEL	97	0-13	50# SACKS MAYNES MIX #1, 2 1/4"X16" IRECO IREMITE 62, 2"X8" IRECO UNIGEL	1.5#/YD. 3 1/2" VERTICAL HOLES SPILLWAY
[illegible]244 CU. YDS.	2100# MAYNES #1, 100# IREMITE 110# UNIGEL	100	0-15	50# SACK MAYNES 2 1/4" 6" IRECO IREMITE 2"X8" IRECO UNIGEL	3 1/2" HOLE VERTICAL 1.86#/YD. SPILLWAY
[illegible]333 CU. YDS.	1500# MAYNES 100# UNIGEL	72	0-15	50# SACK MAYNES 2"X8" RECO UNIGEL	1.71#/YD. 3 1/2" HOLE VERTICAL SPILLWAY
[illegible]726 CU. YDS.	1100# MAYNES 35# IREMITE 62, 60# UNIGEL	54	0-15	50# SACK MAYNES #1, 2 1/4"X16" IRECO IREMITE 2"X8" IRECO UNIGEL	1.61#/YD. 3 1/2" VERTICAL HOLE SPILLWAY
[illegible]77 CU. YDS.	1050# MAYNES 35# UNIGEL	48	0-12	50# SACKS MAYNES #1, 2"X8" IRECO UNIGEL	1.66# YD. 3 1/2" VERTICAL HOLES SPILLWAY
[illegible]30 CU. YDS.	1250# MAYNES 70# UNIGEL 23# IREMITE	64	0-15	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL 2 1/4"X16" IRECO IREMITE 62	1.6# YD. 3 1/2" VERTICAL HOLE SPILLWAY
[illegible]65 CU. YDS.	1800# MAYNES #1, 50# IREMITE 62, 102# UNIGEL	93	0-12	50# SACKS MAYNES MIX 2 1/4"X16" IRECO IREMITE 2"X8" IRECO UNIGEL	1.8#/YD. 3 1/2" VERTICAL HOLE SPILLWAY
[illegible]70 CU. YDS.	2550# MAYNES #1, 130# UNIGEL	117	0-15	50# SACKS MAYNES MIX 2"X8" IRECO UNIGEL	1.6#/YD. 3 1/2" VERTICAL HOLE SPILLWAY
[illegible]10 CU. YDS.	2500# MAYNES #1, 128# UNIGEL	116	0 15	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.65#/YD. 3 1/2" VERTICAL HOLE SPILLWAY

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Revisions			
Symbol	Descriptions	Date	Approved

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by:

US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

Drawn by: V.A.B.

BLASTING SCHEDULE

Checked by:

Submitted by:

Scale: AS SHOWN | Sheet number: 89 | Plot Scale: S=.0833
Date: JUNE 1990 | Design File: (100,63)BS4.DGN
Dwg. No.: | File No.: RBL-2-1309

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					[illegible]	PRE-SPLIT	50	13.5'	2'				1377 SQ. FT.	1500' 200GR. 125' E.
		[illegible] CREEK LADORE & SNIABAR	748	17+00-17+70	197.0' LT. ℄	PRE-SPLIT	48	14'	2'	-			1288 SQ. FT.	1600' 200GR.
24	10 19/8	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	?	192.0' RT. ℄	PRE-SPLIT	50	14'	2'	-			700 SQ. FT.	1400' SEISMIC 50' 2
25	1/28/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	847	17+30-18+70	197.0 LT. ℄	PRE-SPLIT	97	12'	-	-			2328 SQ. FT.	2400' SEISMIC 200G
26	4/6/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	843	20+29-19+64	186' LT. ℄ 190' RT ℄	PRE-SPLIT	44	15'	2'				1232 SQ. FT.	1250' SEISMIC 200G
27	4/7/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	844	18+75-19+65	190' LT. ℄ 196 LT. ℄	PRE-SPLIT	60	14'	2'	-			1680 SQ. FT.	1300' SEISMIC 200G
108	8/10/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	850	18+50-18+00	183-100' RT. OF ℄	PRODUCTION	67	11	8'	5'	4'		1015	1200* MAYNES 75*
109	8/12/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	18+00 18+50	100' RT. TO ℄	PRODUCTION	82	10.5'	8'	5'	4'		1307	1200* MAYNES 91*
110	8/17/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	847	18+00-18+50	℄ TO 125' LT.	PRODUCTION	100	10.5'	8'	5'	-		1643	1600* MAYNES 50*
111	8/20/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	843	18+70-19+00	184'-52' RT. OF ℄	PRODUCTION	55	12'	8'	5'	4'		1466	950* MAYNES 100*
112	8/21/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	870	18+50-19+00	135'-95' LT. OF ℄	PRODUCTION	27	21'	12'	10'	5'		2430	40* E.P. 162, 1350* MAYN
113	8/24/87	BETHANY FALLS	870	20+50-20+00	195-62' RT. OF ℄	PRODUCTION	49	21'	12'	10'	5'		4043	2550* MAYNES 80* IRECO
114	8/29/87	BETHANY FALLS	870	20+50-20+00	195'-71 RT. OF ℄	PRODUCTION	38	21'	12'	10'	5'		2900	2150* MAYNES 45*
115	9/2/87	BETHANY FALLS	870	21+00	195'-71' RT. OF ℄	PRODUCTION	37	21'	12'	10'	5'		2900	2000* MAYNES, 30* IRECO
116	9/2/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	848	17+00-17+90	160-110' LT. OF ℄	PRODUCTION	93	11'	8'	5'			1630	1550* MAYNES 105*
117	9/9/87	BETHANY FALLS	870	-	195-85 RT. OF ℄	PRODUCTION	38	21'	12'	10'	4'		3010	2300* MAYNES 70* IRECO
118	9/12/87	BETHANY FALLS	869	22+50-21+50	195'-100' RT. OF ℄	PRODUCTION	75	21'	12'	8'			6022	427.5* MAYNES 85* UNICEL
118A	9/14/87	BETHANY FALLS	869	22+00-22+58	110-50' RT. OF ℄	PRODUCTION	5	20'	12'	10'			1170	250* MAYNES 6* UNICEL
119	9/17/87	BETHANY FALLS	870	19+50-20+50	80'-50' RT. OF ℄	PRODUCTION	32	21'	12'	10'			3080	1850* MAYNES 100*
120	9/21/87	BETHANY FALLS	870	20+50-21+50	45'-60' RT. OF ℄	PRODUCTION	33	21'	12'	10'			2940	2100* MAYNES 24*
121	9/23/87	BETHANY FALLS	870	19+50-20+50	℄ TO 30' RT.	PRODUCTION	38	21'	12'	10'			2940	2400* MAYNES 43*
121A	9/23/87	BETHANY FALLS	870	22+00	30'-80' RT. OF ℄	PRODUCTION	10	21'	10'	10'			1170	575* MAYNES 11* U
122	9/25/87	BETHANY FALLS	870	20+50-21+50	30'-60' RT. OF ℄	PRODUCTION	27	21'	12'	10'			2520	1650* MAYNES 30*
123	10/1/87	BETHANY FALLS	870	19+00-21+00	20' RT TO 30' LT. OF ℄	PRODUCTION	49	21'	12'	10'	4'		3850	2900* MAYNES 55*
124	10/2/87	BETHANY FALLS	870	18+25-19+00	40'-125' LT. OF ℄	PRODUCTION	22	21'	12'	10'			2310	1300* MAYNES 25*
125	10/5/87	BETHANY FALLS	870	20+50-21+00	15' RT. TO 50' LT. OF ℄	PRODUCTION	13	21'	10'	8'	4'		1540	775* MAYNES 15* UN
126	10/6/87	BETHANY FALLS	870	20+00-20+50	℄ ±	PRODUCTION	13	21'	10'	10'	4'		1360	825* MAYNES 15* UN
127	10/7/87	BETHANY FALLS	870	21+00-20+50	25' LT. TO 30' RT. OF ℄	PRODUCTION	13	21'	10	10'			1540	775* MAYNES 15* UN
128	10/9/87	BETHANY FALLS	870	19+50-20+50	40' LT. TO ℄	PRODUCTION	24	21'	10'	10'			2500	1800* MAYNES 40* U
129	10/13/87	BETHANY FALLS	870	19+00-20+50	25' LT. TO 10' RT. OF ℄	PRODUCTION	46	21'	10'	10'			3800	2700* MAYNES 50*
130	10/15/87	BETHANY FALLS	870	18+50-18+80	70'-154' LT. OF ℄	PRODUCTION	22	21'	11'	10'	4'		2160	1350* MAYNES 25*
131	11/2/87	HUSHPUCKNEY MIDDLE CREEK LA[illegible] & SNIABAR	849	18+30-19+30	83-178' RT. OF ℄	PRODUCTION	87	12'	7'	5'			1267	1700* MAYNES 350*
132	11/5/87	HUSHPUCKNEY MIDDLE CREEK LADORE SNIABAR	849	19+50	80'-170 RT. OF ℄	PRODUCTION	87	12'	7'	5'			1270	1950* MAYNES 262*
133	11/6/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	19+50-19+70	7[illegible]'-170' RT. OF ℄	PRODUCTION	71	12'	7'	5'			1067	1650* MAYNES 62* I
134	11/9/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	19+50-20+00	75'-170' RT. OF ℄	PRODUCTION	91	12'	7'	5'			1270	2075* MAYNES 75* IR
135	11/11/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	19+80-20+20	75'-170' RT OF ℄	PRODUCTION	88	12'	7'	5'			1270	2150* MAYNES 48* IR
136	11/13/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	20+20-20+60	75'-170' RT. OF ℄	PRODUCTION	88	12'	7'	5'			1270	2150* MAYNES 48* IR
137	11/13/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	20+60-21+00	75'-170' RT. OF ℄	PRODUCTION	90	21'	7'	5'			1267	2150* MAYNES 52* IR
138	11/16/87	BETHANY FALLS	870	19+00-20+75	110'-180' LT. OF ℄	PRODUCTION	37	21'	12'	10'	4'		3380	2100* MAYNES 125*
139	11/18/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	20+56-21+00	75'-170' RT. OF ℄	PRODUCTION	89	21'	7'	5'	4½'		1270	2075* MAYNES 300*
140	11/19/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	21+00-21+45	75'-170' RT. OF ℄	PRODUCTION	90	12'	7'	5'			1270	2300* MAYNES 50* IR
141	11/21/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	848	22+00-22+75	120'-170' RT. OF ℄	PRODUCTION	78	11'	7'	5'			1000	1650* MAYNES 85* UN
142	11/21/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	18+50-19+50	55-75' RT OF ℄	PRODUCTION	82	13'	7'	5'			1260	2100* MAYNES 90* UN
143	11/23/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	21+50-22+00	75'-170' RT. OF ℄	PRODUCTION	90	12'	7'	5'			1270	2250* MAYNES 100*
144	11/24/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	22+00	75' RT. ℄ 170' RT. ℄	PRODUCTION	60	12'	7'	5'			844 CU YDS.	1200* MAYNES 70* UN
145	12/1/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	21+50-22+25	75' RT. ℄ 170' RT. ℄	PRODUCTION	116	11'	7'	5'			1660 CU. YDS.	2550* MAYNES 50* IRE
146	12/2/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	19+50-21+50	55' RT. ℄ 75' RT. ℄	PRODUCTION	134	11.5'	7'	5'			2087 CU. YDS.	3100* MAYNES 250* I
147	12/3/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	?	35' RT. ℄ 55' RT. ℄	PRODUCTION	80	12'	7'	5'			1244 CU. YDS.	1850* MAYNES 10* IRE
148	12/4/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	19+25-21+00	35' RT. ℄ 55' RT. ℄	PRODUCTION	84	12'	7'	5'			1307 CU. YDS.	2100* MAYNES 15* IRE
149	12/5/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	21+00-21+80	35' RT. ℄ 55' RT. ℄	PRODUCTION	84	12'	7'	5'			1307 CU. YDS.	2100* MAYNES 15* IRE
150	12/7/87	BETHANY FALLS	870	18+70-19+50	65 LT ℄ 210' LT. ℄	PRODUCTION	49	21'	12'	10'			4410 CU. YDS.	3100* MAYNES 55* UN
151	12/8/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	18+25-19+75	15' RT. ℄ 35' RT. ℄	PRODUCTION	98	12'	7	5'			1630 CU. YDS.	2200* MAYNES 110* U
152	12/10/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	19+75-21+50	5' RT ℄ 15' RT. ℄	PRODUCTION	108	11.5'	7'	5'			1730 CU. YDS.	2500* MAYNES 120* U
153	12/11/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	18+25-19+50	5' LT. ℄ 15' RT. ℄	PRODUCTION	92	12'	7'	5'			1495 CU. YDS.	2050* MAYNES 50* IRE
154	12/12/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	19+50-21+25	5' LT. ℄ 15 RT. ℄	PRODUCTION	114	12'	7'	5'			1840 CU. YDS.	2500* MAYNES 125* U
155	12/13/87	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	848	19+50-21+00	5' LT. ℄ 15' LT. ℄	PRODUCTION	97	11'	7'	5'			1565 CU. YDS.	2100* MAYNES 100* IR
156	1/4/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	847	18+00-19+50	15' LT. ℄ 35' LT. ℄	PRODUCTION	100	10'	7'	5'			1244 CU. YDS.	2100* MAYNES *1, 100
157	1/6/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	847	19+60-20+80	35' LT. ℄ 55' LT. ℄	PRODUCTION	72'	10'	7'	5'			933 CU. YDS.	1500* MAYNES 100* U
158	1/8/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	847	18+?-19+60	35' LT. ℄ 55' LT. ℄	PRODUCTION	54	10'	7'	5'			726 CU. YDS.	1100* MAYNES 35* IRE
159	1/11/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	847	18+70	35 LT. ℄ 55' LT. ℄	PRODUCTION	48	10'	7'	5'			677 CU. YDS.	1050* MAYNES 55* UN
160	1/12/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	847	19+70-20+80	55' LT ℄ 75' LT. ℄	PRODUCTION	64	10'	7'	5'			830 CU. YDS.	1250* MAYNES 70* UN
161	1/13/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	847	19+70-20+70	55' LT. ℄ 105' LT ℄	PRODUCTION	93	10'	7'	5'			1065 CU. YDS.	1800* MAYNES *1, 50*
162	1/15/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	848	17+80-12+80	55 LT. ℄ 75' LT. ℄	PRODUCTION	117	11.5'	7'	5'			1670 CU. YDS.	2550* MAYNES *1, 130*
163	1/16/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	848	17+80-19+80	75' LT. ℄ 95' LT. ℄	PRODUCTION	116	11.5'	7'	5'			1610 CU. YDS.	2500* MAYNES *1, 128*

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E SPRINGS DAM BLASTING REPORT

SHOT VOL.	EXPLOSIVES (LBS.)	NO. OF CAPS	DELAYS IN MILI/SEC	CARTRIDGE STRENGTH	REMARKS
1460 CU. YDS.	1325# MAYNES 50# UNICEL 109# UNICEL	98	0-10	50# SACKS 2½"X16", 2"X8"	3" HOLES, SPILLWAY 1.0#/CU. YD.
1075 CU. YDS.	1225# MAYNES 16# UNICEL 100# UNICEL	90	0-10	50# SACKS 2½"X16", 2"X8"	3" HOLES, SPILLWAY 1.2#/CU. YD.
3130 CU. YDS.	1950# MAYNES IREMITE #62 UNICEL	32	0-10	50# SACKS 2¼"X16", 2"X8"	3" HOLES, SPILLWAY 0.66#/CU. YD.
3080 CU. YDS.	2150# MAYNES 40# IRECO #62, 30# UNICEL	38	0-20	50# SACKS 2¼"X16", 2"X8"	3½" HOLES, SPILLWAY 0.72#/CU. YD.
2415 CU. YDS.	1800# MAYNES 4# IRECO #62, 36# UNICEL	32	0-8	50# SACKS 2¼"X16", 2"X8"	3½" HOLES, SPILLWAY 0.72#/CU. YD.
1038 SQ. FT.	1300' 200GR, 80' E. CORD.	1	1	PRIMACORD	3" HOLES ¼:1 ANGLE
532 SQ. FT.	580' 200GR, 45' E. CORD.	1	1	PRIMACORD	3" HOLES ¼:1 ANGLE
1377 SQ. FT.	1500' 200GR, 125' E. CORD.	1	0	PRIMACORD	3" HOLES ¼:1 ANGLE
1288 SQ. FT.	1600' 200GR.	1	0	PRIMACORD	3" HOLE ¼:1 ANGLE
700 SQ. FT.	1400' SEISMIC 50' 25GR.	1		PRIMACORD	3" HOLE ¼:1 ANGLE
2328 SQ. FT.	2400' SEISMIC 200GR., 225' E. CORD.	2	10.7	PRIMACORD	3½" HOLE ¼:1 ANGLE
1232 SQ. FT.	1250' SEISMIC 200GR, 100' E. CORD.	1	0	PRIMACORD	3" HOLE ¼:1 ANGLE
1680 SQ. FT.	1300' SEISMIC 200GR, 130' E. CORD.	1	0	PRIMACORD	3" HOLE ¼:1 ANGLE
1015	1200# MAYNES 75# UNICEL	67	0-9	50# SACKS 2"X8"	3" HOLES, SPILLWAY 1.03#/CU. YD.
1307	1200# MAYNES 91# UNICEL	82	0-10	50# SACKS 2"X8"	3" HOLES, SPILLWAY 0.99#/CU. YD.
1643	1600# MAYNES 50# UNICEL 110# UNICEL	100	0-10	50# SACKS 2½"X16", 2"X8"	3" HOLES, SPILLWAY 1.07#/CU. YD.
1466	950# MAYNES 100# UNICEL 65# UNICEL	55	0-8	50# SACKS 2½"X16", 2"X8"	3" HOLES, SPILLWAY 0.8#/CU. YD.
2430	40# E.P. 162, 1350# MAYNES, 32# IRECO 62, 26# UNICEL, 30# UNICEL	27	0-8	50# SACKS 2¼"X16", 2½"X16", 2"X8"	3½" HOLES, SPILLWAY 0.60#/CU. YD.
4043	2550# MAYNES 80# IRECO 62, 80# UNICEL 55# UNICEL	49	0-10	50# SACKS 2¼"X16", 2½"X16", 2"X8"	3½" HOLES, SPILLWAY 0.68#/CU. YD.
2900	2150# MAYNES 45# UNICEL 10# IRECO 62	83	0-10	50# SACKS 2"X8", 2¼"X16"	3½" HOLES, SPILLWAY 0.75#/CU. YD.
2900	2000# MAYNES, 30# IRECO 62, 16# UNICEL, 45# UNICEL	37	0-12	50# SACKS 2¼"X16", 2½"X16", 2"X8"	3½" HOLES, SPILLWAY 0.71#/CU. YD.
1630	1550# MAYNES 105# UNICEL 6# UNICEL	93	0-11	50# SACKS 2"X8", 2½"X16"	3" HOLES, SPILLWAY 1.02#/CU. YD.
3010	2300# MAYNES 70# IRECO 62, 6# UNICEL 45# UNICEL	38	0-12	50# SACKS 2¼"X16", 2½"X16", 2"X8"	3½" HOLES, SPILLWAY 1.02#/CU. YD.
6022	427.5# MAYNES 85# UNICEL	75	0-8	50# SACKS	3½" HOLES, SPILLWAY 0.72#/CU. YD.
1170	250# MAYNES 6# UNICEL	5	0-2	50# SACKS 2"X8"	3½" HOLES, SPILLWAY 0.25#/CU. YD.
3080	1850# MAYNES 100# IRECO 62, 40# UNICEL	32	0-8	50# SACKS 2¼"X16", 2"X8"	3½" HOLES, SPILLWAY 0.65#/CU. YDS.
2940	2100# MAYNES 24# IRECO 62, 40# UNICEL	33	0-7	50# SACKS 2¼"X16", 2"X8"	3½" HOLES, SPILLWAY 0.73#/CU. YD.
2940	2400# MAYNES 43# UNICEL 4# IRECO 62	39	0-9	50# SACKS 2"X8", 2¼"X16"	3½" HOLES, SPILLWAY 0.8#/CU. YD.
1170	575# MAYNES 11# UNICEL	10	0-5	50# SACKS 2"X8"	3½" HOLES, SPILLWAY 0.5#/CU. YD.
2520	1650# MAYNES 30# UNICEL	27	0-5	50# SACKS 2"X8"	3½" HOLES, SPILLWAY 0.67#/CU. YD.
3850	2900# MAYNES 55# UNICEL	51	0-5	50# SACKS 2"X8"	3½" HOLES, SPILLWAY 0.76#/CU. YD.
2310	1300# MAYNES 25# UNICEL	22	1-5	50# SACKS 2"X8"	3½" HOLES, SPILLWAY 0.6#/CU. YD.
1540	775# MAYNES 15# UNICEL	14	0-6	50# SACKS 2"X8"	3½" HOLES, SPILLWAY 0.51#/CU. YD.
1360	825# MAYNES 15# UNICEL	13	0-5	50# SACKS 2"X8"	3½" HOLES, SPILLWAY 0.61#/CU. YD.
1540	775# MAYNES 15# UNICEL	13	0-7	50# SACKS 2"X8"	3½" HOLES, SPILLWAY 0.51#/CU. YD.
2500	1800# MAYNES 40# UNICEL	24	0-5	50# SACKS 2"X8"	3½" HOLES, SPILLWAY 0.74#/CU. YD.
3800	2700# MAYNES 50# UNICEL	46	0-5	50# SACKS 2"X8"	3½" HOLES, SPILLWAY 0.72#/CU. YD.
2160	1350# MAYNES 25# UNICEL	22	1-7	50# SACKS 2"X8"	3½" HOLES, SPILLWAY 0.63#/CU. YD.
1267	1700# MAYNES 350# IRECO 162, 95# UNICEL	88	0-10	50# SACKS 2¼"X16", 2"X8"	3½" HOLES, SPILLWAY 1.70#/CU. YD.
1270	1950# MAYNES 262# IRECO 62, 100# UNICEL	87	0-10	50# SACKS 2¼"X16", 2"X8"	3½" HOLES, SPILLWAY 1.8#/CU. YD.
1067	1650# MAYNES 62# IRECO 62, 90# UNICEL	71	0-12	50# SACKS 2¼"X16", 2"X8"	3½" HOLES, SPILLWAY 1.70#/CU. YD.
1270	2075# MAYNES 75# IRECO 62, 100# UNICEL	91	0-12	50# SACKS 2¼"X16", 2"X8"	3½" HOLES, SPILLWAY 1.8#/CU. YD.
1270	2150# MAYNES 48# IRECO 62, 47# UNICEL	88	0-12	50# SACKS 2¼"X16", 2"X8"	3½" HOLES, SPILLWAY 1.8#/CU. YD.
1270	2150# MAYNES 48# IRECO 62, 97# UNICEL	88	0-12	50# SACKS 2¼"X16", 2"X8"	3½" HOLES, SPILLWAY 1.8#/CU. YD.
1267	2150# MAYNES 52# IRECO 62, 100# UNICEL	90	0-15	50# SACKS 2¼"X16", 2"X8"	3½" HOLES, SPILLWAY 1.8#/CU. YD.
3380	2100# MAYNES 125# IRECO 62, 41# UNICEL	37	0-7	50# SACKS 2¼"X16", 2"X8"	3½" HOLES, SPILLWAY 0.67#/CU. YD.
1270	2075# MAYNES 300# IRECO 62, 100# UNICEL	89	0-15	50# SACKS 2¼"X16", 2"X8"	3½" HOLES, SPILLWAY 1.8#/CU. YD.
1270	2300# MAYNES 50# IRECO 62, 100# UNICEL	90	0-14	50# SACKS 2¼"X16", 2"X8"	3½" HOLES, SPILLWAY 1.7#/CU. YD.
1000	1650# MAYNES 85# UNICEL	78		50# SACKS 2"X8"	3½" HOLES, SPILLWAY 1.7#/CU. YD.
1260	2100# MAYNES 90# UNICEL	82	0-12	50# SACKS 2"X8"	3½" HOLES, SPILLWAY 1.7#/CU. YD.
1270	2250# MAYNES 100# IREMITE 62, 100# UNICEL	90	0-12	50# SACKS 2¼"X16", 2"X8"	3½" HOLES, SPILLWAY 1.9#/CU. YD.
344 CU. YDS.	1200# MAYNES 70# UNICEL	60	1-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNICEL	1.5#/YD. 3½" VERTICAL HOLES SPILLWAY
660 CU. YDS.	2550# MAYNES 50# IREMITE 62, 125# UNICEL	116	0-9	50# SACKS MAYNES MIX #1, 2¼"X16" IRECO IREMITE 62, 2"X8" IRECO UNICEL	1.6#/YD. 3½" VERTICAL HOLES SPILLWAY
087 CU. YDS.	3100# MAYNES 250# IREMITE 62, 145# UNICEL	134	0-15	50# SACKS MAYNES MIX #1, 2¼"X16" IRECO IREMITE 62, 2"X8" IRECO UNICEL	1.7#/YD. 3½" VERTICAL HOLES SPILLWAY
44 CU. YDS.	1850# MAYNES 10# IREMITE 62, 90# UNICEL	80	0-15	50# SACKS MAYNES MIX #1, 2¼"X16" IRECO IREMITE 62, 2"X8" IRECO UNICEL	1.6#/YD. 3½" VERTICAL HOLES SPILLWAY
307 CU. YDS.	2100# MAYNES 15# IREMITE 62, 90# UNICEL	84	0-15	50# SACKS MAYNES MIX #1, 2¼"X16" IRECO IREMITE 62, 2"X8" IRECO UNICEL	1.7#/YD. 3½" VERTICAL HOLES SPILLWAY
107 CU. YDS.	2100# MAYNES 15# IREMITE 62, 90# UNICEL	84	1-12	50# SACKS MAYNES MIX #1, 2¼"X16" IRECO IREMITE 62, 2"X8" IRECO UNICEL	1.7#/YD. 3½" VERTICAL HOLES SPILLWAY
410 CU. YDS.	3100# MAYNES 55# UNICEL	51	0-10	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNICEL	0.7#/YD. 3½" VERTICAL HOLES SPILLWAY
630 CU. YDS.	2200# MAYNES 110# UNICEL	98	0-15	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNICEL	1.4#/YD. 3½" VERTICAL HOLES SPILLWAY
730 CU. YDS.	2500# MAYNES 120# UNICEL	108	0-15	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNICEL	1.5#/YD. 3½" VERTICAL HOLES SPILLWAY
495 CU. YDS.	2050# MAYNES 50# IREMITE 62, 101# UNICEL	92	0-15	50# SACKS MAYNES MIX #1, 2¼"X16" IRECO IREMITE 62, 2"X8" IRECO UNICEL	1.5#/YD. 3½" VERTICAL HOLES SPILLWAY
840 CU. YDS.	2500# MAYNES 125# UNICEL	114	0-14	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNICEL	1.4#/YD. 3½" VERTICAL HOLES SPILLWAY
565 CU. YDS	2100# MAYNES 100# IREMITE 62, 110# UNICEL	97	0-13	50# SACKS MAYNES MIX #1, 2¼"X16" IRECO IREMITE 62, 2"X8" IRECO UNICEL	1.5#/YD. 3½" VERTICAL HOLES SPILLWAY
44 CU. YDS.	2100# MAYNES #1, 100# IREMITE 110# UNICEL	100	0-15	50# SACK MAYNES 2¼"X16" IRECO IREMITE 2"X8" IRECO UNICEL	3½" HOLE VERTICAL 1.86#/YD. SPILLWAY
33 CU. YDS.	1500# MAYNES 100# UNICEL	72	0-15	50# SACK MAYNES 2"X8" IRECO UNICEL	1.71#/YD. 3½" HOLE VERTICAL SPILLWAY
76 CU. YDS.	1100# MAYNES 35# IREMITE 62, 60# UNICEL	54	0-15	50# SACK MAYNES #1, 2¼"X16" IRECO IREMITE 2"X8" IRECO UNICEL	1.61#/YD. 3½" VERTICAL HOLE SPILLWAY
77 CU. YDS.	1050# MAYNES 55# UNICEL	48	0-12	50# SACKS MAYNES #1, 2"X8" IRECO UNICEL	1.66#/YD. 3½" VERTICAL HOLES SPILLWAY
30 CU. YDS.	1250# MAYNES 70# UNICEL 23# IREMITE	64	0-15	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNICEL 2¼"X16" IRECO IREMITE 62	1.6#/YD. 3½" VERTICAL HOLE SPILLWAY
065 CU. YDS.	1800# MAYNES #1, 50# IREMITE 62, 102# UNICEL	93	0-12	50# SACKS MAYNES MIX 2¼"X16" IRECO IREMITE 2"X8" IRECO UNICEL	1.8#/YD. 3½" VERTICAL HOLE SPILLWAY
670 CU. YDS.	2550# MAYNES #1, 130# UNICEL	117	0-15	50# SACKS MAYNES MIX 2"X8" IRECO UNICEL	1.6#/YD. 3½" VERTICAL HOLE SPILLWAY
610 CU. YDS.	2500# MAYNES #1, 128# UNICEL	116	0-15	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNICEL	1.65#/YD. 3½" VERTICAL HOLE SPILLWAY

Revisions			
Symbol	Descriptions	Date	Approved

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

BLASTING SCHEDULE

Designed by:
Drawn by: V.A.B.
Checked by:
Submitted by:

Scale: AS SHOWN
Date: JUNE 1990
Dwg. No.:
Sheet number: 89
Plot Scale: S=.0833
Design File: (100,63)BS4.DGN
File No.: RBL-2-1309

D
C
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3 | 2 | 1

5	4	3

D

BLUE SPRINGS DAM BLASTIN

SHOT NO.	DATE	GEOLOGIC LOCATION	ELEV.	LOCATION STATION	LOCATION RANGE	PURPOSE	NO. OF HOLES	DEPTH (FT.)	SPACING (FT.)	BURDEN (FT.)	STEM (FT.)	SHOT VOL.	EXPLOSIV
164	1/18/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	848	17+80-18+80	95 LT. ℄ 115' LT ℄	PRODUCTION	59	11.5'	7'	5'		894 CU. YDS.	1350* MAYNES 65* UNIGE
165	1/21/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	848	18+70-19+45	95' LT. ℄ 115' LT. ℄	PRODUCTION	48	11.5'	7'	5'		716 CU. YDS.	1050* MAYNES 150* IREM
166	1/21/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	848	17+70-18+70	115 LT. ℄ 135' LT. ℄	PRODUCTION	60	11 5'	7'	5'		835 CU. YDS.	110* MAYNES 50* IREMIT
167	1/23/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	848	18+70-19+55	115' LT. ℄ 135' LT. ℄	PRODUCTION	48	11.5'	7'	5'		716 CU. YDS.	1200* MAYNES 150* IREV
168	1/23/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	848	17+60-18+65	115' LT. ℄ 135' LT ℄	PRODUCTION	48	11.5'	7'	5'		855 CU. YDS.	1350* MAYNES 100* IREV
169	1/25/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	18+65-19+50	115' LT ℄ 125' LT. ℄	PRODUCTION	45	11.5'	7'	5'		716 CU. YDS.	1050* MAYNES 50* UNIGE
170	1/26/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	18+10-19+40	140' LT. ℄ 160' LT. ℄	PRODUCTION	62	11.5'	7'	5'		906 CU. YDS.	1400* MAYNES 70* UNIGE
171	1/29/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	847	17+50-18+50	160' LT ℄ 185' LT. ℄	PRODUCTION	85	10.0'	7'	5'		1037 CU. YDS.	1400* MAYNES 95* UNIGE
172	2/2/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	847	16+00-17+00	160 LT. ℄ 185' LT ℄	PRODUCTION	106	10'	7'	5'		1426 CU. YDS.	1875* MAYNES 75* IREMIT
173	2/3/88	BETHANY FALLS	868	20+50-21+00	?	PRODUCTION	12	21'	10'	10'		1190 CU. YDS.	700* MAYNES 10* UNIGEL
174	2/5/88	BETHANY FALLS	868	19+50-20+50	70' LT. ℄ 120' LT. ℄	PRODUCTION	24	21'	10'	10'		3500 CU. YDS.	1550* MAYNES 27* UNIGE
175	2/9/88	BETHANY FALLS	868	19+50-20+00	110' LT. ℄ 155' LT. ℄	PRODUCTION	32	21'	12'	8'		3584 CU. YDS.	2050* MAYNES 36* UNIGEL
176	2/19/88	BETHANY FALLS	868	18+50-19+80	104' LT. ℄ 210' LT. ℄	PRODUCTION	73	21'	12'	8'		5600 CU. YDS.	4875* MAYNES 150* IREM
177	3/1/88	CRITZER PLEASANTON A	829	14+00-19+00	60' RT. ℄ 80 RT. ℄	PRODUCTION	246	4-6.5'	5-7'	4-5'		1385 CU. YDS.	1075*MAYNES 285* UNIGE
178	3/2/88	CRITZER PLEASANTON A	828	18+00-20+50	60' RT. ℄ 80' RT ℄	PRODUCTION	175	4-6.5'	6'	5'		1059 CU. YDS.	850* MAYNES 192* UNIGEL
179	3/7/88	CRITZER PLEASANTON A	828	20+50-21+00	85' RT. ℄ 80' LT. ℄	PRODUCTION	45	4'	5'	4'		167 CU. YDS.	50* MAYNES 100* IREMITE
180	3/7/88	CRITZER PLEASANTON A	829	19+20-21+10	40' RT. ℄ 60' RT. ℄	PRODUCTION	136	5.25'	6'	5'		796 CU. YDS.	550* MAYNES 150* UNIGE
181	3/8/88	CRITZER PLEASANTON A	829	15+80-19+20	40' RT. ℄ 60' RT. ℄	PRODUCTION	177	5.7'	6'	5'		1436 CU. YDS.	1300* MAYNES 166* UNIG
182	3/9/88	CRITZER PLEASANTON A	829	14+00-16+85	20' RT. ℄ 40' RT. ℄	PRODUCTION	260	4-6.5'	6'	5'		975 CU. YDS.	850* MAYNES 285* UNIGEL
183	3/10/88	CRITZER PLEASANTON A	829	14+00-15+85	20' RT. ℄ 40' RT. ℄	PRODUCTION	138	?	5-6'	4'-5'		685 CU. YDS.	500* MAYNES 158* UNIGEL
184	3/11/88	CRITZER PLEASANTON A	829	17+00-19+70	20' RT. ℄ 40' RT. ℄	PRODUCTION	144	5 5'-7'	5'-6'	5'		1340 CU. YDS.	1200* MAYNES 158* UNIGE
185	3/12/88	CRITZER PLEASANTON A	828	19+70-20+90	20' RT. ℄ 40' RT. ℄	PRODUCTION	84	5'	6'	5'		444 CU. YDS.	375* MAYNES 93* UNIGEL
186	3/14/88	CRITZER PLEASANTON A	827	21+10-21+50	20' RT. ℄ 60' RT. ℄	PRODUCTION	120	4'	5'	4'		356 CU. YDS.	250* MAYNES 132* UNIGEL
187	3/14/88	CRITZER PLEASANTON A	830	18+00-19+00	4' LT. ℄ 20' LT. ℄	PRODUCTION	62	7.5'	9'	6'		793 CU. YDS.	650* MAYNES 68* UNIGEL
188	3/15/88	CRITZER PLEASANTON A	830	15+75-18+00	5' LT. ℄ 20' RT. ℄	PRODUCTION	170	7'	8'	5'		1640 CU. YDS.	1400* MAYNES 190* UNIG
189	3/16/88	CRITZER PLEASANTON A	828	14+50-15+75	5 LT. ℄ 20' RT. ℄	PRODUCTION	70	5'	5'	5'		277 CU. YDS.	250* MAYNES 80* UNIGEL
190	3/16/88	CRITZER PLEASANTON A	831	16+00-18+50	4' LT. ℄ 30' LT. ℄	PRODUCTION	142	7.5'	8'	6'		1736 CU. YDS.	1400* MAYNES 156* UNIG
191	3/17/88	CRITZER PLEASANTON A	828	14+50-15+75	4' LT. ℄ 30' LT. ℄	PRODUCTION	75	5.5'	6'	5'		400 CU. YDS.	500* MAYNES 83* UNIGEL
192	3/18/88	CRITZER PLEASANTON A	828	14+35-15+00	4' LT. ℄ 30' LT. ℄	PRODUCTION	65	6'	5'	5'		300 CU. YDS.	275* MAYNES 73* UNIGEL
193	3/18/88	CRITZER PLEASANTON A	823	18+30-19+00	20' LT ℄ 45' LT. ℄	PRODUCTION	65	5'	?	5'		1393 CU. YDS.	1150* MAYNES 72* UNIGEL
194	3/21/88	CRITZER PLEASANTON A	831	15+80-18+30	20' RT ℄ 45' RT. ℄	PRODUCTION	129	5.9'-8.2'	9'	5'		1643.5 CU. YDS.	1475* MAYNES 129* UNIG
195	3/22/88	CRITZER PLEASANTON A	828	14+50-15+80	20' RT. ℄ 45' RT. ℄	PRODUCTION	88	4.5'	9'	5'		541.7 CU. YDS.	350* MAYNES 88* UNIGEL
196	3/22/88	CRITZER PLEASANTON A	831.5'	17+00-18+70	20' RT. ℄ 45' RT. ℄	PRODUCTION	90	8.5'	9'	5'		1338 CU. YDS.	1400* MAYNES 90* UNIGEL
197	3/23/88	CRITZER PLEASANTON A	830 6	14+50-15+80	9' LT. ℄ 18' RT. ℄	PRODUCTION	124	6.9'	10'	6'		897 CU. YDS.	1000* MAYNES 124* UNIG
198	3/24/88	CRITZER PLEASANTON A	832.6	15+80-18+80	9' LT. ℄ 27' LT ℄	PRODUCTION	138	9 6'	10'	6'		1660 CU. YDS.	2400* MAYNES 138* UNIGE
199	3/25/88	CRITZER PLEASANTON A	829.5	14+50-15+80	9' LT. ℄ 27' LT. ℄	PRODUCTION	56	6.5'	8'	5'		563 CU. YDS.	500* MAYNES 56* UNIGEL
200	3/25/88	CRITZER PLEASANTON A	831.6	16+75-18+50	27' LT. ℄ 45' LT. ℄	PRODUCTION	80	8.6'	10'	6'		1003 CU. YDS.	1650* MAYNES 80* UNIGEL
201	3/26/88	CRITZER PLEASANTON A	830	14+50-16+75	27' LT. ℄ 45' LT. ℄	PRODUCTION	108	7.2'	9'	6'		1500 CU. YDS.	1250* MAYNES 119* UNIG
202	3/28/88	CRITZER PLEASANTON A	830	16+00-19+00	126' LT. ℄ 156' LT. ℄	PRODUCTION	130	9.2'	9'	6'		3393 CU. YDS.	3325* MAYNES 143* UNIGE
203	3/30/88	CRITZER PLEASANTON A	830	15+00-16+00	126' LT. ℄ 150' LT. ℄	PRODUCTION	116	7'	9'	6'		1322 CU. YDS.	1100* MAYNES 128* UNIG
204	3/31/88	CRITZER PLEASANTON A	828	19+50-20+00	10' RT. ℄ 10' LT. ℄	PRODUCTION	96	5'	6	5'		764 CU. YDS.	675* MAYNES 106* UNIGEL
205	4/4/88	CRITZER PLEASANTON A	827	21+00	10' RT. ℄ 10' LT. ℄	PRODUCTION	28	4.2'	5'	5'		191 CU. YDS.	160* MAYNES 31* UNIGEL
206	4/8/88	MOUND CITY CRITZER PLEASANTON	833	18+25-18+75	30' LT. ℄ 150' LT. ℄	PRODUCTION	141	11	9'	7'		2648 CU. YDS.	2425* MAYNES 155* UNIGE
207	4/9/88	MOUND CITY CRITZER PLEASANTON	830	19+30-20+70	10' LT. ℄ 55' LT. ℄	PRODUCTION	146	6'-8'	8.5'	7'		1578 CU. YDS.	1450* MAYNES 160* UNIG
208	4/11/88	MOUND CITY CRITZER PLEASANTON	826	20+50-21+30	10' LT. ℄ 60' LT. ℄	PRODUCTION	147	5'	5.5'	5'		740 CU. YDS.	550* MAYNES 150* UNIGEL
209	4/12/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	846	18+50-18+80	176' LT. ℄ 197' LT. ℄	PRODUCTION	18	11'-14'	10'	7'		554 CU. YDS.	425* MAYNES 23* IREMITE
210	4/13/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR MOUND CITY CRITZER PLEASANTON	846	18+80-19+60	84' LT. ℄ 194' LT. ℄	PRODUCTION	69	11'-22'	10'	7'		3120 CU. YDS.	3925* MAYNES 76* UNIGEL
211	4/14/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR MOUND CITY CRITZER PLEASANTON	846	19+60-19+90	84' LT. ℄ 194' LT. ℄	PRODUCTION	64	11'-22'	10'	7'		2870 CU. YDS.	3450* MAYNES 80* ?
212	4/15/88	?	?	?	?	PRODUCTION	67	9'-21'	?	?		?	3350* MAYNES 100* IREMI
213	4/20/88	?	?	?	?	PRODUCTION	67	9'-22'	?	?		?	3350* MAYNES 67* IREMIT

C

B

A

VALUE ENGINEERING PAYS

E SPRINGS DAM BLASTING REPORT

SHOT VOL.	EXPLOSIVES (LBS.)	NO. OF CAPS	DELAYS IN MILI/SEC	CARTRIDGE STRENGTH	REMARKS
894 CU. YDS.	1350# MAYNES 65# UNIGEL 15# IREMITE	59	0-12	50# SACKS MAYNES MIX #1, 2¼"X16" IRECO IREMITE 62	1.6#/YD. 3½" VERTICAL HOLES SPILLWAY
716 CU YDS.	1050# MAYNES 150# IREMITE 53# UNIGEL	48	0-11	50# SACKS MAYNES MIX #1, 2¼"X16" IRECO IREMITE 62, 2"X8" IRECO UNIGEL	1.75#/YD. 3½" VERTICAL HOLES SPILLWAY
835 CU. YDS.	110# MAYNES 50# IREMITE 66# UNIGEL	60	0-11	50# SACKS MAYNES MIX #1, 2¼" IRECO UNIGEL	1.46#/YD. 3½" VERTICAL HOLES SPILLWAY
6 CU. YDS.	1200# MAYNES 150# IREMITE 53# UNIGEL	?		50# SACKS MAYNES MIX #1, 2¼"X16" IRECO IREMITE 62, 2"X8" IRECO UNIGEL	1.96#/YD. 3½" VERTICAL HOLES SPILLWAY
855 CU YDS	1350# MAYNES 100# IREMITE 70# UNIGEL	62	0-12	50# SACKS MAYNES MIX #1, 2¼"X16" IRECO IREMITE 62, 2"X8" IRECO UNIGEL	1.77#/YD. 3½" VERTICAL HOLES SPILLWAY
6 CU. YDS.	1050# MAYNES 50# UNIGEL	45	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.5#/YD. 3½" VERTICAL HOLES SPILLWAY
906 CU. YDS.	1400# MAYNES 70# UNIGEL	62	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.6#/YD. 3½" VERTICAL HOLES SPILLWAY
037 CU. YDS.	1400# MAYNES 95# UNIGEL	85	0-14	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.44#/YD. 3½" VERTICAL HOLES SPILLWAY
426 CU. YDS.	1875# MAYNES 75# IREMITE 120# UNIGEL	106	0-12	50# SACKS MAYNES MIX #1, 2¼"X16" IRECO IREMITE 62, 2"X8" IRECO UNIGEL	1.45#/YD. 3½" VERTICAL HOLES SPILLWAY
90 CU. YDS.	700# MAYNES 10# UNIGEL	12	0-6	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	0.6#/YD. 3½" VERTICAL HOLES SPILLWAY
3500 CU. YDS.	1550# MAYNES 27# UNIGEL	26	0-8	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	0.5#/YD. 3½" VERTICAL HOLES SPILLWAY
3584 CU. YDS.	2050# MAYNES 36# UNIGEL	33	0-7	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	0.58#/YD. 3½" VERTICAL HOLES SPILLWAY
5600 CU. YDS.	4875# MAYNES 150# IREMITE 80# UNIGEL	81	0-11	50# SACKS MAYNES MIX #1, 2¼"X16" IRECO IREMITE 62, 2"X8" IRECO IREMITE	0.91#/YD. 3½" VERTICAL HOLES SPILLWAY
1385 CU. YDS.	1075#MAYNES 285# UNIGEL	246	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	0.98#/YD. 3½" VERTICAL HOLES SPILLWAY
1059 CU. YDS.	850# MAYNES 192# UNIGEL	175	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	0.92#/YD. 3½" VERTICAL HOLES SPILLWAY
167 CU. YDS.	50# MAYNES 100# IREMITE	45	0-9	50# SACKS MAYNES MIX #1, 2¼"X16" IRECO IREMITE 62	0.9#/YD. 3½" VERTICAL HOLES SPILLWAY
796 CU. YDS.	550# MAYNES 150# UNIGEL	136	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	0.88#/YD. 3½" VERTICAL HOLES SPILLWAY
436 CU. YDS.	1300# MAYNES 166# UNIGEL	177	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1#/YD. 3½" VERTICAL HOLES SPILLWAY
475 CU. YDS.	850# MAYNES 285# UNIGEL	260	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.2#/YD. 3½" VERTICAL HOLES SPILLWAY
685 CU YDS.	500# MAYNES 158# UNIGEL	138	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	0.9#/YD. 3½" VERTICAL HOLES SPILLWAY
340 CU. YDS.	1200# MAYNES 158# UNIGEL	144	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.01#/YD. 3½" VERTICAL HOLES SPILLWAY
444 CU. YDS.	375# MAYNES 93# UNIGEL	84	0-12'	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.05#/YD. 3½" VERTICAL HOLES SPILLWAY
356 CU. YDS	250# MAYNES 132# UNIGEL	120	0-9	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.07#/YD. 3½" VERTICAL HOLES SPILLWAY
793 CU. YDS.	650# MAYNES 68# UNIGEL	62	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	0.9#/YD. 3½" VERTICAL HOLES SPILLWAY
640 CU. YDS.	1400# MAYNES 190# UNIGEL	110	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	0.95#/YD. 3½" VERTICAL HOLES SPILLWAY
277 CU. YDS.	250# MAYNES 80# UNIGEL	?		50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.2#/YD. 3½" VERTICAL HOLES SPILLWAY
736 CU. YDS.	1400# MAYNES 156# UNIGEL	142	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	0.9#/YD. 3½" VERTICAL HOLES SPILLWAY
400 CU. YDS.	500# MAYNES 83# UNIGEL	75	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.45#/YD. 3½" VERTICAL HOLES SPILLWAY
500 CU. YDS.	275# MAYNES 73# UNIGEL	65	0-10	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.16#/YD. 3½" VERTICAL HOLES SPILLWAY
393 CU. YDS.	1150# MAYNES 72# UNIGEL	65	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.14#/YD. 3½" VERTICAL HOLES SPILLWAY
43.5 CU. YDS.	1475# MAYNES 129# UNIGEL	129	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	0.98#/YD. 3½" VERTICAL HOLES SPILLWAY
7 CU. YDS.	350# MAYNES 88# UNIGEL	88	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	0.81#/YD. 3½" VERTICAL HOLES SPILLWAY
338 CU. YDS.	1400# MAYNES 90# UNIGEL	90	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.11#/YD. 3½" VERTICAL HOLES SPILLWAY
397 CU. YDS.	1000# MAYNES 124# UNIGEL	124	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.25#/YD. 3½" VERTICAL HOLES SPILLWAY
660 CU. YDS.	2400# MAYNES 138# UNIGEL	138	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.52#/YD. 3½" VERTICAL HOLES SPILLWAY
63 CU. YDS.	500# MAYNES 56# UNIGEL	56	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	0.98#/YD. 3½" VERTICAL HOLES SPILLWAY
03 CU. YDS.	1650# MAYNES 80# UNIGEL	80	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.72#/YD. 3½" VERTICAL HOLES SPILLWAY
500 CU. YDS.	1250# MAYNES 119# UNIGEL	108	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	0.91#/YD. 3½" VERTICAL HOLES SPILLWAY
393 CU. YDS.	3325# MAYNES 143# UNIGEL	130	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.02#/YD. 3½" VERTICAL HOLES SPILLWAY
322 CU. YDS.	1100# MAYNES 128# UNIGEL	116	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	0.93#/YD. 3½" VERTICAL HOLES SPILLWAY
64 CU YDS.	675# MAYNES 106# UNIGEL	96	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.02#/YD. 3½" VERTICAL HOLES SPILLWAY
91 CU. YDS.	160# MAYNES 31# UNIGEL	28	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.02#/YD. 3½" VERTICAL HOLES SPILLWAY
48 CU. YDS.	2425# MAYNES 155# UNIGEL 25# IREMITE	141	0-14	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL 2¼"X16" IRECO IREMITE 62	0.98#/YD. 3½" VERTICAL HOLES SPILLWAY
8 CU. YDS.	1450# MAYNES 160# UNIGEL 15# IREMITE	146	0-15	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL 2¼"X16" IRECO IREMITE 62	1.02#/YD. 3½" VERTICAL HOLES SPILLWAY
CU. YDS.	550# MAYNES 150# UNIGEL	147	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.05#/YD. 3½" VERTICAL HOLES SPILLWAY
4 CU. YDS.	425# MAYNES 23# IREMITE 20# UNIGEL	18	0-10	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL 2¼"X16" IRECO IREMITE 62	0.84#/YD. 3½" VERTICAL HOLES SPILLWAY
CU. YDS.	3925# MAYNES 76# UNIGEL 15# IREMITE	69	0-10	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL 2¼"X16" IRECO IREMITE 62	1.3#/YD. 3½" VERTICAL HOLES SPILLWAY
70 CU. YDS.	3450# MAYNES 80# ?	64	0-11	50# SACKS MAYNES MIX #1	1.2#/YD. 3½" VERTICAL HOLES SPILLWAY
?	3350# MAYNES 100# IREMITE 67# UNIGEL	67	0-12	50# SACKS MAYNES MIX #1, 2¼"X16" IRECO IREMITE 62, 2"X8" IRECO UNIGEL	3½" VERTICAL HOLES SPILLWAY
?	3350# MAYNES 67# IREMITE 62	67	1-10	50# SACKS MAYNES MIX #1, 2"X8" IRECO IREMITE 62	3½" VERTICAL HOLES SPILLWAY

Revisions			
Symbol	Descriptions	Date	Approved

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

BLASTING SCHEDULE

Designed by:
Drawn by: V.A.B.
Checked by:
Submitted by:
Scale: AS SHOWN
Date: JUNE 1990
Dwg. No.:
Sheet number: 90
Plot Scale: S=.0833
Design File: E00.633BS5.DGN
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168	1/23/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	[illegible]	[illegible]	[illegible] 135' LT. ℄	PRODUCTION	45	11.5'	7'	5'	716 CU YDS.	1200• MAYNES
169	1/25/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	848	17+60-18+65	5' LT. ℄ 135' LT. ℄	PRODUCTION	48	11.5	7'	5'	855 CU. YDS.	1350• MAYNES 1
170	1/26/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	18+65-19+50	115 LT. ℄ 125' LT. ℄	PRODUCTION	45	11.5'	7'	5'	716 CU. YDS.	1050• MAYNES 5
171	1/29/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	849	18+10-19+40	140' LT. ℄ 160' LT ℄	PRODUCTION	62	11.5'	7	5'	906 CU. YDS.	1400• MAYNES 7
172	2/2/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	847	17+50-18+50	160' LT. ℄ 185' LT. ℄	PRODUCTION	85	10.0'	7	5'	1037 CU. YDS.	1400• MAYNES 9
173	2/3/88	BETHANY FALLS	847	16+00-17+00	160 LT. ℄ 185' LT ℄	PRODUCTION	106	10'	7'	5'	1426 CU. YDS.	1875• MAYNES 7
174	2/5/88	BETHANY FALLS	868	20+50-21+00	?	PRODUCTION	12	21'	10'	10'	1190 CU. YDS.	700• MAYNES 10
175	2/9/88	BETHANY FALLS	868	19+50-20+50	70' LT. ℄ 120' LT. ℄	PRODUCTION	24	21'	10'	10'	3500 CU. YDS.	1550• MAYNES 2
176	2/19/88	BETHANY FALLS	868	19+50-20+00	110' LT. ℄ 155' LT. ℄	PRODUCTION	32	21'	12'	8'	3584 CU. YDS.	2050• MAYNES 3
177	3/1/88	CRITZER PLEASANTON A	868	18+50-19+80	104' LT. ℄ 210' LT. ℄	PRODUCTION	73	21	12'	8'	5600 CU. YDS.	4875• MAYNES 1
178	3/2/88	CRITZER PLEASANTON A	829	14+00-19+00	60' RT. ℄ 80' RT. ℄	PRODUCTION	246	4-6.5'	5-7'	4-5'	1385 CU. YDS.	1075• MAYNES 28
179	3/7/88	CRITZER PLEASANTON A	828	18+00-20+50	60' RT. ℄ 80' RT. ℄	PRODUCTION	175	4-6.5'	6'	5'	1059 CU. YDS.	850• MAYNES 19
180	3/7/88	CRITZER-PLEASANTON A	828	20+50-21+00	85' RT. ℄ 80' LT. ℄	PRODUCTION	45	4'	5'	4'	167 CU YDS.	50• MAYNES 100
181	3/8/88	CRITZER PLEASANTON A	829	19+20-21+10	40' RT. ℄ 60' RT. ℄	PRODUCTION	136	5.25'	6'	5'	796 CU. YDS.	550• MAYNES 15
182	3/9/88	CRITZER PLEASANTON A	829	15+80-19+20	40' RT. ℄ 60' RT. ℄	PRODUCTION	177	5.7'	6'	5'	1436 CU. YDS.	1300• MAYNES 1
183	3/10/88	CRITZER PLEASANTON A	829	14+00-16+85	20' RT. ℄ 40' RT. ℄	PRODUCTION	260	4-6.5'	6'	5'	975 CU. YDS.	850• MAYNES 285
184	3/11/88	CRITZER PLEASANTON A	829	14+00-15+85	20' RT. ℄ 40' RT. ℄	PRODUCTION	139	?	5-6'	4'-5'	685 CU. YDS.	500• MAYNES 158
185	3/12/88	CRITZER PLEASANTON A	829	17+00-19+70	20' RT. ℄ 40' RT. ℄	PRODUCTION	144	5.5'-7'	5'-6'	5'	1340 CU. YDS.	1200• MAYNES 1
186	3/14/88	CRITZER PLEASANTON A	828	19+70-20+90	20' RT. ℄ 40' RT. ℄	PRODUCTION	84	5'	6'	5'	444 CU. YDS.	375• MAYNES 93
187	3/14/88	CRITZER PLEASANTON A	827	21+10-21+50	20' RT. ℄ 60' RT. ℄	PRODUCTION	120	4'	5'	4'	356 CU. YDS.	250• MAYNES 132
188	3/15/88	CRITZER PLEASANTON A	830	18+00-19+00	4' LT. ℄ 20' LT. ℄	PRODUCTION	62	7.5'	9'	6'	793 CU. YDS.	650• MAYNES 68
189	3/16/88	CRITZER PLEASANTON A	830	15+75-18+00	5' LT. ℄ 20' RT. ℄	PRODUCTION	170	7'	8'	5'	1640 CU. YDS.	1400• MAYNES 19
190	3/16/88	CRITZER PLEASANTON A	828	14+50-15+75	5' LT. ℄ 20' RT. ℄	PRODUCTION	70	5'	5'	5'	277 CU. YDS.	250• MAYNES 80
191	3/17/88	CRITZER PLEASANTON A	831	16+00-18+50	4' LT. ℄ 30' LT. ℄	PRODUCTION	142	7.5'	8'	6'	1736 CU. YDS.	1400• MAYNES 1
192	3/18/88	CRITZER PLEASANTON A	828	14+50-15+75	4' LT. ℄ 30' LT. ℄	PRODUCTION	75	5.5'	6'	5'	400 CU. YDS.	500• MAYNES 83
193	3/18/88	CRITZER PLEASANTON A	828	14+35-15+00	4' LT. ℄ 30' LT. ℄	PRODUCTION	65	6'	5'	5'	300 CU. YDS.	275• MAYNES 73
194	3/21/88	CRITZER PLEASANTON A	823	18+30-19+00	20' LT. ℄ 45' LT. ℄	PRODUCTION	65	5'	?	5'	1393 CU. YDS.	1150• MAYNES 72
195	3/22/88	CRITZER PLEASANTON A	831	15+80-18+30	20' RT. ℄ 45' RT. ℄	PRODUCTION	129	5.9'-8.2'	9'	5'	1643.5 CU. YDS.	1475• MAYNES 1
196	3/22/88	CRITZER PLEASANTON A	828	14+50-15+80	20' RT. ℄ 45' RT. ℄	PRODUCTION	88	4.5'	9'	5'	541.7 CU. YDS.	350• MAYNES 88
197	3/23/88	CRITZER PLEASANTON A	831.5'	17+00-18+70	20' RT. ℄ 45' RT. ℄	PRODUCTION	90	8.5'	9'	5'	1338 CU. YDS.	1400• MAYNES 90
198	3/24/88	CRITZER PLEASANTON A	830.6	14+50-15+80	9' LT. ℄ 18' RT. ℄	PRODUCTION	124	6.9'	10'	6'	897 CU. YDS.	1000• MAYNES 1
199	3/25/88	CRITZER PLEASANTON A	832.6	15+80-18+80	9' LT. ℄ 27' LT. ℄	PRODUCTION	138	9.6'	10'	6'	1660 CU. YDS.	2400• MAYNES 13
200	3/25/88	CRITZER PLEASANTON A	829.5	14+50-15+80	9' LT. ℄ 27' LT. ℄	PRODUCTION	56	6.5'	8'	5'	563 CU. YDS.	500• MAYNES 56
201	3/26/88	CRITZER PLEASANTON A	831.6	16+75-18+50	27' LT. ℄ 45' LT. ℄	PRODUCTION	80	8.6'	10'	6'	1003 CU. YDS.	1650• MAYNES 80
202	3/28/88	CRITZER PLEASANTON A	830	14+50-16+75	27 LT. ℄ 45' LT. ℄	PRODUCTION	108	7.2'	9'	6'	1500 CU. YDS	1250• MAYNES 1
203	3/30/88	CRITZER PLEASANTON A	830	16+00-19+00	126' LT. ℄ 156 LT. ℄	PRODUCTION	130	9.2'	9'	6'	3393 CU. YDS.	3325• MAYNES 14
204	3/31/88	CRITZER PLEASANTON A	830	15+00-16+00	126' LT. ℄ 150' LT. ℄	PRODUCTION	116	7'	9'	6'	1322 CU. YDS.	1100• MAYNES 1
205	4/4/88	CRITZER PLEASANTON A	828	19+50-20+00	10' RT. ℄ 10' LT. ℄	PRODUCTION	96	5'	6'	5'	764 CU. YDS.	675• MAYNES 106
206	4/8/88	MOUND CITY CRITZER PLEASANTON	827	21+00	10' RT. ℄ 10 LT. ℄	PRODUCTION	28	4.2'	5'	5'	191 CU. YDS.	160• MAYNES 31
207	4/9/88	MOUND CITY CRITZER PLEASANTON	833	18+25-18+75	30' LT. ℄ 150' LT. ℄	PRODUCTION	141	11'	9'	7'	2648 CU. YDS.	2425• MAYNES 15
208	4/11/88	MOUND CITY CRITZER PLEASANTON	830	19+30-20+70	10' LT. ℄ 55' LT. ℄	PRODUCTION	146	6'-8'	8.5'	7'	1578 CU. YDS.	1450• MAYNES 16
209	4/12/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR	826	20+50-21+30	10' LT. ℄ 60' LT. ℄	PRODUCTION	147	5'	5.5'	5'	740 CU. YDS.	550• MAYNES 150
210	4/13/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR MOUND CITY CRITZER PLEASANTON	846	18+50-18+80	176' LT. ℄ 197' LT. ℄	PRODUCTION	18	11'-14'	10'	7'	554 CU. YDS.	425• MAYNES 23
			846	18+80-19+60	84' LT. ℄ 194' LT. ℄	PRODUCTION	69	11'-22'	10'	7'	3120 CU. YDS.	3925• MAYNES 76
211	4/14/88	HUSHPUCKNEY MIDDLE CREEK LADORE & SNIABAR MOUND CITY CRITZER PLEASANTON	846	19+60-19+90	84' LT. ℄ 194' LT. ℄	PRODUCTION	64	11'-22'	10'	7'	2870 CU. YDS.	3450• MAYNES 80
212	4/15/88	?	?	?	?	PRODUCTION	67	9'-21'	?	?	?	3350• MAYNES 10
213	4/20/88	?	?	?	?	PRODUCTION	67	9'-22'	?	?	?	3350• MAYNES 67

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					REMARKS
894 CU. YDS.	1350# MAYNES 65# UNIGEL 15# IREMITE	59	0-12	50# SACKS MAYNES MIX #1, 2¼"X16" IRECO IREMITE 62	1.6#/YD 3½" VERTICAL HOLES SPILLWAY
716 CU. YDS.	1050# MAYNES 150# IREMITE 53# UNIGEL	48	0-11	50# SACKS MAYNES MIX #1, 2¼"X16" IRECO IREMITE 62, 2"X8" IRECO UNIGEL	1.75#/YD. 3½" VERTICAL HOLES SPILLWAY
835 CU. YDS.	110# MAYNES 50# IREMITE 66# UNIGEL	60	0-11	50# SACKS MAYNES MIX #1, 2¼" IRECO UNIGEL	1.46#/YD. 3½" VERTICAL HOLES SPILLWAY
716 CU. YDS.	1200# MAYNES 150# IREMITE 53# UNIGEL	?		50# SACKS MAYNES MIX #1, 2¼"X16" IRECO IREMITE 62, 2"X8" IRECO UNIGEL	1.96#/YD. 3½" VERTICAL HOLES SPILLWAY
855 CU. YDS.	1350# MAYNES 100# IREMITE 70# UNIGEL	62	0-12	50# SACKS MAYNES MIX #1, 2¼"X16" IRECO IREMITE 62, 2"X8" IRECO UNIGEL	1.77#/YD. 3½" VERTICAL HOLES SPILLWAY
716 CU. YDS.	1050# MAYNES 50# UNIGEL	45	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.5#/YD. 3½" VERTICAL HOLES SPILLWAY
906 CU. YDS.	1400# MAYNES 70# UNIGEL	62	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.6#/YD. 3½" VERTICAL HOLES SPILLWAY
1037 CU. YDS.	1400# MAYNES 95# UNIGEL	85	0-14	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.44#/YD. 3½" VERTICAL HOLES SPILLWAY
1426 CU. YDS.	1875# MAYNES 75# IREMITE 20# UNIGEL	106	0-12	50# SACKS MAYNES MIX #1, 2¼"X16" IRECO IREMITE 62, 2"X8" IRECO UNIGEL	1.45#/YD. 3½" VERTICAL HOLES SPILLWAY
1190 CU. YDS.	700# MAYNES 10# UNIGEL	12	0-6	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	0.6#/YD. 3½" VERTICAL HOLES SPILLWAY
3500 CU. YDS.	1550# MAYNES 27# UNIGEL	26	0-8	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	0.5#/YD. 3½" VERTICAL HOLES SPILLWAY
3584 CU. YDS.	2050# MAYNES 36# UNIGEL	33	0-7	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	0.58#/YD. 3½" VERTICAL HOLES SPILLWAY
5600 CU. YDS.	4875# MAYNES 150# IREMITE 80# UNIGEL	81	0-11	50# SACKS MAYNES MIX #1, 2¼"X16" IRECO IREMITE 62, [illegible] X8" IRECO IREMITE	0.91#/YD. 3½" VERTICAL HOLES SPILLWAY
1385 CU. YDS.	1075# MAYNES 285# UNIGEL	246	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	0.98#/YD. 3½" VERTICAL HOLES SPILLWAY
1059 CU. YDS.	850# MAYNES 192# UNIGEL	175	0 12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	0.92#/YD. 3½" VERTICAL HOLES SPILLWAY
167 CU. YDS.	50# MAYNES 100# IREMITE	45	0-9	50# SACKS MAYNES MIX #1, 2¼"X16" IRECO IREMITE 62	0.9#/YD. 3½" VERTICAL HOLES SPILLWAY
796 CU. YDS.	550# MAYNES 150# UNIGEL	136	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	0.88#/YD. 3½" VERTICAL HOLES SPILLWAY
1436 CU. YDS.	1300# MAYNES 166# UNIGEL	177	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1#/YD. 3½" VERTICAL HOLES SPILLWAY
975 CU. YDS.	850# MAYNES 285# UNIGEL	260	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.2#/YD. 3½" VERTICAL HOLES SPILLWAY
685 CU. YDS.	500# MAYNES 158# UNIGEL	138	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	0.9#/YD. 3½" VERTICAL HOLES SPILLWAY
1340 CU. YDS.	1200# MAYNES 158# UNIGEL	144	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.01#/YD. 3½" VERTICAL HOLES SPILLWAY
444 CU. YDS.	375# MAYNES 93# UNIGEL	84	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.05#/YD. 3½" VERTICAL HOLES SPILLWAY
356 CU. YDS.	250# MAYNES 132# UNIGEL	120	0-9	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.07#/YD. 3½" VERTICAL HOLES SPILLWAY
793 CU. YDS.	650# MAYNES 68# UNIGEL	62	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	0.9#/YD. 3½" VERTICAL HOLES SPILLWAY
1640 CU. YDS.	1400# MAYNES 190# UNIGEL	170	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	0.95#/YD. 3½" VERTICAL HOLES SPILLWAY
277 CU. YDS.	250# MAYNES 80# UNIGEL	?		50# SACKS MAYNES MIX #1, 2 X8" IRECO UNIGEL	1.2#/YD 3½" VERTICAL HOLES SPILLWAY
1736 CU. YDS.	1400# MAYNES 156# UNIGEL	142	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	0.9#/YD. 3½" VERTICAL HOLES SPILLWAY
400 CU. YDS.	500# MAYNES 83# UNIGEL	75	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.45#/YD. 3½" VERTICAL HOLES SPILLWAY
300 CU. YDS.	275# MAYNES 73# UNIGEL	65	0-10	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.16#/YD. 3½" VERTICAL HOLES SPILLWAY
1393 CU. YDS.	1150# MAYNES 72# UNIGEL	65	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.14#/YD. 3½" VERTICAL HOLES SPILLWAY
1643.5 CU. YDS.	1475# MAYNES 129# UNIGEL	129	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	0.98#/YD. 3½" VERTICAL HOLES SPILLWAY
541.7 CU. YDS.	350# MAYNES 88# UNIGEL	88	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	0.81#/YD. 3½" VERTICAL HOLES SPILLWAY
1338 CU. YDS.	1400# MAYNES 90# UNIGEL	90	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.11#/YD. 3½" VERTICAL HOLES SPILLWAY
897 CU. YDS.	1000# MAYNES 124# UNIGEL	124	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.25#/YD. 3½" VERTICAL HOLES SPILLWAY
1660 CU. YDS.	2400# MAYNES 138# UNIGEL	138	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.52#/YD. 3½" VERTICAL HOLES SPILLWAY
563 CU. YDS.	500# MAYNES 56# UNIGEL	56	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	0.98#/YD. 3½" VERTICAL HOLES SPILLWAY
1003 CU. YDS.	1650# MAYNES 80# UNIGEL	80	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.72#/YD. 3½" VERTICAL HOLES SPILLWAY
1500 CU. YDS.	1250# MAYNES 119# UNIGEL	108	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	0.91#/YD. 3½" VERTICAL HOLES SPILLWAY
3393 CU. YDS.	3325# MAYNES 143# UNIGEL	130	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.02#/YD. 3½" VERTICAL HOLES SPILLWAY
1322 CU. YDS.	1100# MAYNES 128# UNIGEL	116	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	0.93#/YD. 3½" VERTICAL HOLES SPILLWAY
764 CU. YDS.	675# MAYNES 106# UNIGEL	96	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.02#/YD. 3½" VERTICAL HOLES SPILLWAY
191 CU. YDS.	160# MAYNES 31# UNIGEL	28	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.02#/YD. 3½" VERTICAL HOLES SPILLWAY
2648 CU. YDS.	2425# MAYNES 155# UNIGEL 25# IREMITE	141	0-14	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL 2¼"X16" IRECO IREMITE 62	0.98#/YD. 3½" VERTICAL HOLES SPILLWAY
1578 CU. YDS.	1450# MAYNES 160# UNIGEL 15# IREMITE	146	0-15	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL 2¼"X16" IRECO IREMITE 62	1.02#/YD. 3½" VERTICAL HOLES SPILLWAY
740 CU. YDS.	550# MAYNES 150# UNIGEL	147	0-12	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL	1.05#/YD. 3½" VERTICAL HOLES SPILLWAY
554 CU. YDS.	425# MAYNES 23# IREMITE 20# UNIGEL	18	0-10	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL 2¼"X16" IRECO IREMITE 62	0.84#/YD. 3½" VERTICAL HOLES SPILLWAY
3120 CU. YDS.	3925# MAYNES 76# UNIGEL 15# IREMITE	69	0-10	50# SACKS MAYNES MIX #1, 2"X8" IRECO UNIGEL 2¼"X16" IRECO IREMITE 62	1.3#/YD. 3½" VERTICAL HOLES SPILLWAY
2870 CU. YDS.	3450# MAYNES 80# ?	64	0-11	50# SACKS MAYNES MIX #1	1.2#/YD. 3½" VERTICAL HOLES SPILLWAY
?	3350# MAYNES 100# IREMITE 67# UNIGEL	67	0-12	50# SACKS MAYNES MIX #1, 2¼"X16" IRECO IREMITE 62, 2"X8" IRECO UNIGEL	3½" VERTICAL HOLES SPILLWAY
?	3350# MAYNES 67# IREMITE 62	67	1-10	50# SACKS MAYNES MIX #1, 2"X8" IRECO IREMITE 62	3½" VERTICAL HOLES SPILLWAY

Revisions

Symbol	Descriptions	Date	Approved

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

US Army Corps of Engineers

EAST FORK LITTLE BLUE RIVER, MISSOURI
BLUE SPRINGS LAKE
CONSTRUCTION FOUNDATION REPORT

BLASTING SCHEDULE

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Checked by:	
Submitted by:	
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